Drug-related deaths as reported by participating Procurators Fiscal & Coroners in:

England
Wales
Northern Ireland
Scotland
Isle of Man
Guernsey
Jersey

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Preface

This is the 5th Annual Review of drug-related deaths in the United Kingdom and the 13th six-monthly surveillance report published by the National programme on Substance Abuse Deaths (np-SAD).

We are delighted that coroners in England and Wales, and their officers, continue to collaborate and co-operate with the programme by providing comprehensive statistics on drug-related mortality. We would like to thank them all for their active participation.

I am particularly pleased to report on continuing participation and growing collaboration with coroners in Northern Ireland, Guernsey, Jersey and the Isle of Man, as well as with the procurators fiscal for Dumbarton and Linlithgow in Scotland. Their contributions are precious as we aim to maintain a UK-wide reporting system. We are also grateful to Graham Jackson of the General Register Office for Scotland for giving permission for including the Occasional Paper on "Drug-related deaths in Scotland in 2003".

The findings seem to indicate a decrease in drug-related deaths at the UK level. This is excellent news, which can well be the result of both the drug misuse monitoring and prevention initiatives promoted and carried out in the last few years. It is hoped that this trend will continue. However, there is the need for further vigilance and constant monitoring of the drug-related fatalities situation.

As in previous years, the information in this report is intended to alert authorities at the local, regional and national levels, as well as the general public, to the most serious consequences of drug abuse. The report provides also a number of indicators of drug abuse patterns, trends and early warnings on emerging drug problems so that appropriate and timely action can be taken.

We would like to thank the Department of Health for their support for this very important Programme.

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R J Allen, Wolverhampton
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J S Atkinson, North Lincs & Grimsby
R D Atkinson, Lincolnshire West
R Balmain, Black Country
S Barrett, Berkshire - West
C Beasley-Murray, Essex & Thurrock
P J Bedford, Berkshire
D T Bowen, Gwent
A M Bradley, Hampshire – North East
D A Brown, Linlithgow
P L Brunton, Cardiganshire
S N Burge, Hampshire (Central)
M J C Burgess, Surrey & the Queen's Household
E T Carlyon, West & East Cornwall
N D Chapman, Nottinghamshire
M F Coker, Warwickshire
R H G Corner, Milton Keynes
A K Cotter, Birmingham & Solihull
W D F Coverdale, York
F Cranfield, West & North Hertfordshire
R D Crawford-Clarke, MBE, Mid & North Shropshire
A R Craze, East Sussex
A C Crickmore, Gloucester
P de Gruchy, Jersey
P Dean, Greater Suffolk and Southend & South East Essex
W F G Dolman, Northern London
C C Donnelly, Dumbarton
C W M Donnelly, Hartlepool
K M Dowding, Great Yarmouth
C P Dorries, South Yorkshire – West
E A Earland, Exeter & Greater Devon
J P Ellery, Shropshire – Mid & North
G Fell, North Yorkshire (Western)
J R Finch, Guernsey
S P G Fisher, Louth & Spilsby
P E A Forrest, Avon
C B Gallon, South Northumberland and North Tyneside
N G Gardiner, Oxfordshire
D M Gibbons, Gloucester
L N Gorodkin, Manchester Central
M T Gwynne, Telford & Wrekin
A A Haigh, South Staffordshire
D M Halpern, Herefordshire
V Hamilton-Deeley, Brighton & Hove
R L Hatch, North West Kent
D Hinchliff, West Yorkshire Eastern
A V Hind, Blackpool & the Fylde District
E S Hooper, South Yorkshire East
M S Howells, Pembrokeshire
J B Hughes, North East & Central North Wales
R A Hulett, Buckinghamshire
G Jackson Manchester (City) District
C W Johnson, Wirral
M C Johnston, West Dorset
T Kelly, The Hundred of Scarsdale
J R Kenroy, Portsmouth & S E Hampshire
P A Knapman, Inner West London
W R Knowles, Kings Lynn & West Norfolk
J L Leckey, Greater Belfast N.I
S G Lee, Blackpool & the Fylde
M J Leeming, Manchester (Greater) West
A G Leguen de Lacroix, Lowestoft
S Lynch, Inner South London
A L Maddrell, Cheltenham & Cotswolds
D C Masters, Wiltshire & Swindon
J A Matthews, Isle of Wight
P Matthews, London – City of London
M H McCann, Preston & North & West Lancashire
I G McCreath, North Northumberland
R McLernon, East Tyrone & Magherafelt N.I.
N S Meadows, Plymouth & South West Devon
D Mitford, Newcastle upon Tyne
D S Morris, Bedfordshire & Luton
W R Morris, North & East Cambridgeshire and South & West Cambridgeshire
I H Morton, North Eastern Cumbria
M Moyle, Isle of Man
S Nelson, Greater Manchester District
M D Oakley, North Yorkshire Eastern
D J Osborne, Neath & Port Talbot
W J Owen, Carmarthenshire
R Palmer, Southern District of London
S Payne, Bournemouth, Poole & Eastern Dorset
A Pember, Northamptonshire
C E Penna, Darlington & South Durham
D W Pepperell, Isles of Scilly
A J Pim, Reading
J S Pollard, South Manchester
T C Prickett, Southern Cumbria
A J A Rebello, Liverpool
H R Redman, Kent, Central & South East Kent
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N L Rheinberg, Cheshire
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V F Round, Worcestershire
C G Rushton, High Peak of Derbyshire
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J C Sampson, Southern District of London
D R Sarginson, Coventry
G M Saul, East Riding & Hull
P Saul Greater Manchester West

M C Shaw, Sunderland
M J F Sheffield, Teesside
G A Short, Hampshire Central
A F T Sibcy, South Shropshire
M J H Singleton, Blackburn, Hyndburn & RibbleValley
I Smith, South Cumbria & Furness
I S Smith, Stoke on Trent & North Staffordshire
E Stearns, Eastern London
R J Stone, West Sussex
C K Sumner, Knowsley, St Helens & Sefton
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J M Symington, Leicester City & South Leicestershire
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M Taylor, Boston & Spalding
R G Taylor, East Lancashire
E G Thomas, Hertfordshire
A M Thompson, London – Western
J D Thomspon, South Down NI
H M Turner, Torbay & South Devon
A Tweddle, North Durham
P M Walters, Bridgend & Glamorgan Valleys
J C Welton, Greater Manchester (South)
R L I Whittaker, West Yorkshire Western
B Williams, North Manchester
G U Williams, Powys
T Williams, East Somerset
D Winter, Sunderland
K S Wiseman, Southampton & New Forest

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Key points

Annual Review 2003

- Notifications of 1,487 drug-related deaths occurring in 2003 were received from a total of 110 Coroners from 123 jurisdictions in England, Wales, the Channel Islands, and Isle of Man. Coroners from Northern Ireland and Procurators Fiscal from Scotland also submitted information. The total number of drug-related deaths (DRDs) reported in 2003 indicates a decrease of about 6% over 2002.

- The demographic profile remains consistent with previous reports. The majority of cases were males (70%) and under the age of 45 years (73%).

- Fifty percent of cases died from accidental poisoning. This is a reduction of 13 percentage points compared to the previous year. However, there was an increase in the proportion of intentional self-poisoning cases from 19% in 2002 to 37% in 2003.

- Opiates/opioids (i.e. heroin/morphine; methadone; opiate/opioid analgesics), alone or in combination with other drugs, accounted for the majority (74%) of fatalities.

- Heroin/morphine alone or in combination with other drugs, accounted for the highest proportion (36%) of fatalities.

- In England and Wales, Brighton & Hove recorded the highest annual drug-related death rate per 100,000 population (25.3), followed by East Lancashire (13.9), Boston & Spalding (12.1), and Manchester (11.3).

- Compared with the same period in 2002, the following jurisdictions reported significantly lower rates per 100,000 population aged 16 & over than in the previous year: York (-398%); Milton Keynes (-245%); Oxfordshire (-86.9%); Cornwall (-79.2%); North Durham (-77.5%).

- Compared with 2002, the following jurisdictions reported significantly higher rates per 100,000 population aged 16 & over than in the previous year: Southend & South East Essex (+574%); Coventry (+ 337%); Wrekin/Shropshire (+320%); Western Dorset (+141%).

- The following perceptible changes were also observed:
  - About 14% decrease in the number of deaths associated with amphetamines (alone or in combination).
  - About 40% decrease in the number of deaths associated with “ecstasy type” drugs (alone or in combination).
  - About 19% decrease in the number of deaths associated with heroin or morphine (alone or in combination).

Key Points

Surveillance Report No 13 (July – December 2003)

- A total of 763 drug related deaths were reported to the np-SAD by Coroners in England and Wales during the period July to December 2003; a decrease of about 10% over the same period in 2002.

- The demographic profile remains consistent with that of previous reports. The majority of cases were males (69%) and under the age of 45 years (73%).

- The following jurisdictions recorded the highest semi-annual drug-related death rate per 100,000 population aged 16 years and over: Brighton & Hove (12.4); Greater Belfast (5. 9); Scarsdale (5.7); Jersey (5.6); Manchester (5.5); Southern Cumbria & Furness (5.2).

- Compared to the same period in 2002, the following changes were observed:
  - -About 25% decrease in fatalities due to amphetamines.
  - -About 23% decrease in cocaine related deaths.
  - -About 49% decrease in deaths due to ecstasy-type drugs.
  - -About 29% decrease in deaths due to heroin/morphine.
  - -About 17% decrease in deaths due to methadone.

I. Introduction

This report is the fifth in the series of annual reviews published by the National programme on Substance Abuse Deaths (np-SAD).

The first part of the report takes the form of an annual review of information (including nil returns) received from coroners in England & Wales, Northern Ireland, the Isle of Man and Channel Islands, as well as the procurator fiscal for Dumbarton, on drug-related deaths that actually occurred in 2003. Notifications of 1,487 deaths during this period were received from a total of 110 jurisdictions in England, Wales, Guernsey, Jersey and the Isle of Man. Moreover, two jurisdictions in Northern Ireland and one from Scotland contributed to this report and the data are analysed here. Since the time lapse between the date of death and the conclusion of inquest varies considerably from case to case, there will undoubtedly be further deaths in 2003 that are not covered by this report. However, these cases will be analysed in future reports.

The second part of the report relates to the surveillance period July to December 2003, which has not been published previously. These figures reflect inquests on drug-related deaths reported to np-SAD during that period and may include deaths that actually occurred outside that period. In order to provide continuity with previous np-SAD surveillance reports, changes in the semi-annual death rates since January 2001 are also highlighted (see Appendix 9).

The third part of this report is the 'Occasional Paper' on the issue of drug-related deaths in Scotland in 2003, which has been written by Graham Jackson of the General Register Office for Scotland.

A further 113 inquest reports were received after publication of the fourth Annual Review (2003) on deaths during 2002. These cases are presented in Appendix 4.

There are two main types of source in the UK for regular information on 'acute' drug-related deaths (DRDs): three General Mortality Registers (GMRs) and one Special Mortality Register (the np-SAD). The GMRs are the General Register Offices for England & Wales, Scotland, and Northern Ireland. Essentially, the mortality data recorded by these Offices are derived from medical death certificates. In England & Wales and Scotland some supplementary information is provided. No detailed information is passed to them on toxicology, e.g. levels of drugs and/or alcohol found in body tissues, blood or urine. Post mortem reports are not provided to the GMRs. Special drug poisoning databases have been established by the GMR for England & Wales and the GMR for Scotland.

These government agencies publish annual statistics on DRDs. The GMR in Northern Ireland does not currently publish information on such cases.

In England, the National Treatment Agency (NTA) shares responsibilities with the Department of Health (DoH) for the government's strategy to reduce drug-related deaths (DRDs). The NTA continues to steer the policy initiatives and implications on reducing the number of drug-related deaths nationally. In March 2004, the NTA published guidance as part of its initiatives to reduce drug-related deaths. This guidance is for helplines that sometimes find themselves called upon to provide information and advice about drug use. The majority of the guidance refers to accidental overdose amongst adults (National Treatment Agency, 2004).

In recent years there have been interesting developments nationally, highlighting the need for drug-related deaths surveillance. The most recent *Health Statistics Quarterly*, published in August 2004 (Morgan et al, 2004) examined trends in drug poisoning deaths involving antidepressant drugs between 1993 and 2002 in England and Wales as a whole, and focussed particularly on the relationship between antidepressant prescribing and deaths in England. During the study period, the number of prescription items for antidepressants increased two and a half fold, largely due to increased use of selective serotonin re-uptake inhibitors and other antidepressants. Overall, death rates in England, per million prescription items, declined over the study period, with reductions in rates for dothiepin, amitriptyline and all tricyclic antidepressants. There was no change in the rate for selective serotonin re-uptake inhibitors while rates for other antidepressants increased. Despite these trends, through all the study period rates were highest for tricyclic antidepressants and lowest for selective serotonin re-uptake inhibitors (Morgan et al, 2004).

Overview of the most recent studies on mortality in drug addicts

Several recent international studies on mortality in drug addicts have provided examples on how these studies may play a role in informing treatment provision.

US studies: Mokdad et al (2004) identified and quantified the leading causes of mortality in the United States. They found that the leading causes of death in 2000 were tobacco (435,000 deaths; 18.1% of total US deaths), poor diet and physical inactivity (400,000 deaths; 16.6%), and alcohol

consumption (85,000 deaths; 3.5%). Other actual causes of death included illicit use of drugs (17,000).

European studies: Rocchi et al (2003) assessed whether substance-abusing people have a higher risk of dying from unintentional acute intoxication in specific periods of the year. In confirming similar findings related to deaths from recreational drugs (Schifano et al, 2003a), they found that monthly distribution of deaths over the study period followed an uneven trend, with a slightly higher risk in the period December - January, and in August, in both genders.

Davids et al (2003) examined opiate-related deaths in the German town of Essen (inhabitants about 600,000) from 1990-1994. They found that, after an average start of drug abuse at the age of 20 and a drug career of about a decade, the risk of drug-related death seems to be relatively high at the age of about 30 years. Their finding is consistent with the median age at death consistently reported by np-SAD in the last four years (Ghodse et al, 2002a; 2002b; 2003a; 2003b).

Kraus and Muller-Kalthoff (2002) analysed drug-related deaths in the German Federal States of Bavaria (Munich, Nuremberg and Augsburg counties) during 1999 and Baden-Wurttemberg (Stuttgart and Mannheim counties) during 1999 and in the first half of 2000. The results in both Regions indicated high prevalence rates of a history of at least one non-fatal overdose (approximately 50%) or a suicide attempt (approximately 35%). More than 40% of the deceased had been suffering from at least one additional mental disorder, which was depression in most cases. At least one critical life event (in most cases, a relapse) or a period of abstinence (i.e., due to imprisonment, therapy or detoxification) during the past three months before death was reported for more than half of the addicts. Copeland et al (2004) investigated, in a large family practice of 10,000 patients in Edinburgh, Scotland, whether there had been a change in causes of mortality over time. Patients known to have ever injected drugs were recruited into a cohort study from 1980 until 2001. They found that injecting drug users had a very high risk of mortality and provided some of the most convincing evidence so far that harm minimisation, in its broadest sense, is effective in reducing drug-related mortality.

Hickman et al (2003) carried out a retrospective mortality cohort study of heroin users recruited from an anonymous reporting system from specialist drug clinics. In their study, the standardised mortality ratio was 17 times higher for female and male heroin users in the cohort compared to mortality in the non-heroin-using London population aged 15-59 years.

Thiblin et al (2004) reported that snorting or smoking heroin probably involves a reduced risk of obtaining high blood concentrations of morphine but still constitutes a considerable risk of lethal outcome due to high variability in blood concentrations. In fact, decreased tolerance resulting from periods of reduced or sporadic use appears to be an important risk factor in connection with heroin overdosing by snorting or smoking, which indicates that some heroin addicts may inaccurately assume that these routes of administration are safe when resuming their use of heroin after a period of abstinence.

Buckley and Manus (2004) established the frequency with which anxiolytic and sedative drugs resulted in fatal poisonings and examined longitudinal changes in poisoning deaths in the UK. They found a substantial reduction in the annual number of deaths from sedative drug poisoning between 1983 and 1999 and suggested that this has been due to a sustained reduction in prescriptions for high toxicity drugs (i.e.: short acting barbiturates) and more recently to the withdrawal of gelatin capsule formulations of temazepam.

The findings of these various studies are not dissimilar to those reported in np-SAD's annual reviews. These studies provide evidence that should guide the development of meaningful and sustainable prevention programmes across Europe and beyond.

Drug-related deaths as reported by comparable databases

In this report, data obtained from coroners in England and Wales were compared to the most recent data published by the Office of National Statistics (2004) and the Drug Abuse Warning Network (Office of Applied Statistics, 2004). The objective of this comparison was to identify the difference in drug-related death distribution between np-SAD data and other registers' (ONS and DAWN) most recent data.

International differences in the pattern of drug-related mortality may reflect varying definitions of what constitutes a drug-related death, level of access to healthcare, differing patterns and history of drug use, differences in the accuracy and use of toxicology, etc.

The ONS publishes its annual mortality figures at the beginning of each year for the year ending 14 months earlier. The ONS database of drug-related poisoning deaths contains all deaths in England and Wales where the underlying cause of death is assigned to given criteria of International Classification of Diseases (ICD) codes. The 10th revision (ICD10; World Health Organization, 1992) has been in use across the UK since the beginning of 2001. The data are entered in such a way that deaths can be sorted, counted and analysed according to any substances mentioned on the death

certificate. In taking into account the ONS 'standard' definition, from 1993 to 2001 more than one drug was mentioned on the death certificate in 19% of drug-related deaths in England and Wales. Conversely, alcohol was reported in 23% of cases. Figures released in February 2004 indicated that the number of deaths related to drug poisoning fell in 2002, particularly amongst males, although numbers were still much higher for males than females. Most deaths were associated with opiates (chiefly heroin/morphine and methadone), often in combination with other drugs and/or alcohol. The number of deaths where heroin/morphine was mentioned was 5 times higher in 2000 (at 926) than in 1993, but figures fell back to 790 in 2002. The number of cases in which methadone was implicated rose steadily from 232 in 1993 to peak at 421 in 1997, since which time it has fallen (to 207 in 2001) and remained relatively stable in 2002. Mentions of cocaine rose 12-fold over the period 1993-2002 as a whole. During 2002, cocaine death rates have risen to their highest level ever and an increase in amphetamine death rates (but not of ecstasy) was observed. Benzodiazepines were mentioned on an increased number of death certificates in 2002, with numbers returning to the levels seen in 1998 and 1999. In the last decade or so, the non-opiate types of drug most often mentioned were paracetamol, either on its own or in compound preparations, and antidepressants. The number of deaths in Scotland using the ONS 'standard' definition rose by 23% between 1996 and 2002, from 460 to 566. Heroin/morphine was involved in 65% of cases in 2002, diazepam in 56%, and methadone in 26%. The number of methadone-related deaths fell between 1996 and 2000, probably reflecting a tightening up of the way in which methadone is dispensed. However, the number of such deaths rose again in both 2001 and 2002. Cocaine deaths were increasing, but ecstasy ones stabilised in 2002. The overall number of DRDs in Northern Ireland ranged between 28 and 46 during 1990-1998, after which it rose to 54 in 2000 before falling to 12 in 2002. The male:female ratio varied considerably during this time, from 1:1.79 to 2.33:1, but on average was 1.14:1. In 2001, 50% of deaths occurred in those aged 30-44 years.

The ONS identifies a number of problems associated with quantifying deaths from specific drugs. Coroners may specify the drugs implicated in the death in the 'cause of death' section of the coroner's certificate of death. However, such information is not always recorded by the coroner or is recorded only in the broadest terms, e.g., "drug overdose" which is the only description for around 10% of ONS cases. Furthermore, deaths often involve a mixture of substances used in combination with alcohol. Where more than one substance is recorded, there is no indication of which substance is more likely to be the cause of death. In this sense, although the ONS database constitutes an invaluable instrument, it is unable to provide precise figures on the number of deaths that can be attributed to specific substances from the data collected at death registration. ONS estimates of the number of deaths due to specific drugs are therefore based on the number of deaths where the underlying cause of death was drug-related and where the drug is mentioned on the coroner's certificate. The figures presented, therefore, should be seen as an estimate of the numbers of deaths associated with particular substances, rather than the exact number directly due to these substances.

The General Register Office for Scotland (GROS) compiles statistics on drug-related deaths in Scotland. The author of the most recent report ("Drug-related Deaths in Scotland in 2003") has granted permission to reproduce this report in this annual review. The statistics from Scotland are derived from details of death registrations and information obtained from forensic pathologists on all deaths involving drugs or persons known or suspected to be drug-dependent. In a way, the reporting system in Scotland differs from np-SAD in that deaths from natural causes are rarely reported to the coroners in England and Wales and therefore would not feature substantially in the np-SAD surveillance. Throughout the annual review, reference has been made to the statistics from Scotland, as appropriate. The International Centre for Drug Policy also maintains a data capture system of deaths of addicts notified to the Home Office. This register monitors mortality among notified addicts since 1967.

In the UK, annual statistics using a uniform definition of drug-related deaths across England & Wales, Scotland and Northern Ireland was introduced for the UK Drug Strategy in 2001. This definition relies mainly on the ICD-10 (WHO, 1992) codes F1X (excluding F10, F17 and F18); X40-44; and Y10-14. The following categories of death have been excluded: deaths due to secondary infection and relevant complications; deaths due to AIDS where the risk factor was believed to be sharing of needles; deaths from road traffic and other accidents which occurred under the influence of drugs; and deaths involving compound analgesics that contain drugs listed under the Misuse of Drugs Act.

There are some difficulties with this definition. Firstly, the exclusion of compound analgesics such as 'coproxamol', 'co-dydramol' and 'co-codamol' that contain dextropropoxyphene, dihydrocodeine and codeine sulphate respectively would lead to gross underestimation of drug-related deaths. From our clinical experience, drug abusers consume these compound analgesics in large doses mainly because

of the abuse potential of the psychoactive components, ease of availability and lower price compared to illicit heroin.

The use of ICD-10 F1X codes relies mainly on the coroners' verdict of drug dependence/non-dependent abuse of drugs. As previously stated, there are many other cases of deaths that would have met these ICD-10 criteria but were not reported to the coroners in England & Wales because these cases were of natural causes. These limitations may be addressed only if a valid surveillance system is to be adopted.

In the USA, the Department of Health and Human Services publishes annual reports on drug abuse-related Medical Examiner cases collected through the Drug Abuse Warning Network (DAWN), a reporting system in many ways comparable to the np-SAD itself. The Office of Applied Statistics (2004), within the Substance Abuse and Mental Health Services Agency, is responsible for the operation of DAWN data collection and for the publication of the report. DAWN is an ongoing drug abuse data collection system. Its major objectives are to identify substances associated with drug abuse, monitor patterns of drug abuse, and detect new drugs of abuse. The system also assesses adverse health outcomes associated with drug abuse and provides national and local data for policy and programme planning. To be reported by DAWN, the death must be drug-induced or drug-related, involving illicit or non-medical use of licit drugs, and the reason for taking the substance must be for "psychic effect, dependence or suicide."

The medical examiners participate in DAWN on a voluntary basis. The latest DAWN report "Mortality Data from the Drug Abuse Warning Network, 2002" (Office for Applied Statistics, 2004) was published at the beginning of this year. In 2002, 127 jurisdictions in 38 metropolitan areas submitted data to DAWN. The 38 metropolitan areas range in size from Fargo, North Dakota (population 177,064) to New York, New York (population 9,411,687). Likewise, there was a wide range across metropolitan areas in the number of deaths reviewed by participating medical examiners and coroners. Within metropolitan areas, participating jurisdictions identified between 0 and 894 drug abuse-related deaths in 2002; DAWN reportable deaths accounted for 0 to 21 percent of all deaths reviewed in these metropolitan areas.

II. The National Programme on Substance Abuse Deaths (np-SAD)

The principal aim of the np-SAD is to prevent deaths due to the misuse of illicit and licit drugs and alcohol in addicts and non-addicts in the United Kingdom. The Programme offers a comprehensive prevention package to Drug and Alcohol Action Teams (DAATs), Primary Care Trusts (PCTs) and Strategic Health Authorities (SHAs) with a mission to tackle the problem of drug-related deaths.

The programme has the following objectives:

- collect and collate drug-related mortality data;
- develop and maintain a computerised surveillance system;
- examine trends, e.g. geographic, demographic, drugs implicated, method of death;
- use the data as an indicator to estimate the prevalence of substance problems;
- collaborate in research on substance-related mortality with relevant agencies locally, nationally and internationally; and
- disseminate information on drug-related mortality to the scientific community, clinicians, policy-makers and other interested parties.

As well as dealing with aggregated anonymised data, the np-SAD team can conduct in-depth psychological autopsies on individual cases and carry out confidential inquiry exercises if requested. The team also provides analysis of data for specific DAATs, PCTs and SHAs on request.

As a consequence of the work to date, information on the trends and patterns of death among UK drug misusers, including the impact of illicit and prescribed drugs, has been made available.

Information on the administrative structure, the various databases and data sources held by np-SAD are presented in Appendix 5. A copy of the standard data collection form is reproduced in Appendix 6.

What is a case?

A case is defined as a death where any of the following criteria are met at an inquest or fatal accident inquiry:

- one or more psychoactive substances* directly implicated in death;
- history of dependence or abuse of psychoactive drugs; or
- presence of Controlled Drugs** at post mortem.

[Note that deaths where solvents and other volatile substances are implicated alone are NOT included. Information on this is collected by the Department of Community Health Sciences at St. George's Hospital Medical School. Alcohol is included only when implicated in combination with other qualifying drugs]

*'Psychoactive' substances are those having a direct effect on perception, mood, cognition, behaviour or motor function. Typically these include opiates and opioid analgesics, hypnotics, sedatives, antidepressants, anti-epileptics, anti-psychotics, hallucinogens and stimulants such as amphetamines and cocaine.

**'Controlled Drugs' are those drugs specifically mentioned in the Misuse of Drugs Act (1971) – these include opiates, cocaine, amphetamines, cannabis, GHB, hallucinogens and most benzodiazepines.

Who is a drug abuser/dependent?

A drug abuser/dependent case is defined as one with a history of substance abuse where one or more of the following criteria are met:

- reported as a known illicit drug user by the coroner, based on evidence obtained at inquest;
- prescribed substitute medication for drug dependence;
- presence of an illicit drug at post mortem, where not prescribed, or
- presence of any additional information on the coroner's report suggestive of a history of drug abuse, and where such a history fulfils ICD-10 criteria.

Statistical analysis

Due to the nature of the information collected by the programme, i.e. drug-related deaths as reported by the coroners, this is an observational study. Hence, statistical methods employed are based on proportions and ratios. Where the data include proportions of incidence for particular groups of interest, the ratio of the proportions forms a measure of the relative risk in one group compared with that of the other. These scales of measurement are generally known as point estimates. Although point estimates can be calculated they do not represent the 'true' values. Each point estimate is subject to random variation. Confidence intervals (CI) provide an indication of the range in the true values for the population as a whole, which would be expected in future investigations. The methods used for quantitative data relied mainly on complex assumptions of distributional form. It may be experienced that the assumptions are not satisfied. In such cases, methods known as distribution free methods can be applied, also known as non-parametric tests (e.g. Mann-Whitney).

The data were analysed using SPSS for Windows version 10.

III. Profile of Cases

Table 1. Demographic Variables

	Variable	Jan – Dec 2003 (%) n = 1,487
Gender	Male	70.4
	Female	29.6
Employment status	Unemployed	46.1
	Employed	29.0
	Childcare/houseperson	1.7
	Student	1.9
	Retired/sickness/invalidity	13.0
	Other	0.9
	Not known	7.3
Living arrangements	Alone	39.5
	With others	40.7
	No fixed abode	4.6
	Not known	8.4
	Other	6.9

1. Demography

Notifications of 1,487 drug-related deaths occurring in 2003 were received. Responses (including nil returns) were received from a total of 110 out of 123 coroners' jurisdictions in England, Wales, Guernsey, Jersey and The Isle of Man (about 90% coverage). Moreover, 2 jurisdictions in Northern Ireland and 1 from Scotland contributed to this report and data are here analysed. The majority (70%) of the cases were male. The median age at death was 36 years (semi-interquartile range = 8.0) (Fig. 1).

The General Register Office for Scotland (GROS) reported 317 cases in 2003. The majority (81%) of cases were male and aged under 45 years (89%).

Figures 1a-1c take into account the data from both np-SAD and GROS (i.e. notifications of 1,804 drug-related deaths occurring in the United Kingdom). The majority of cases were male (72%) and aged under 45 years (73).

2. Drug-related Death Rates (Appendix 2)

The jurisdictions reporting the highest annual drug-related death rates per 100,000 population aged 16 years and over were as follows: Brighton & Hove reported the highest annual death rate (25.3), followed by Jersey (13.9), East Lancashire (13.9); Boston & Spalding 12.09; Manchester 11.29.

3. Location of Death

Location of death was reported in all cases. 66% died at a defined residential address (i.e. the deceased's home address or other private residential address), 26% died in hospital and 8% died elsewhere (e.g. in a public place).

4. Underlying Causes of Death

To enable comparison with various national and international data-sets all causes of death have been coded according to the International Classification of Diseases (ICD-10). This is an international standard for the classification of diseases and health-related problems published by the World Health Organisation. The proportions of ICD-10 categories of underlying causes of death were as follows:

- Accidental poisoning (X40-47) 50%
- Intentional self-poisoning (X60-67) 37%
- Other (e.g. natural causes, hanging, unascertained) 13%.

5. Substances Implicated in Death

5.1 All Substances

Psychoactive drugs were not directly implicated in 6% of cases. Of the remaining 1,399 cases, the principal substances implicated were heroin/morphine (38%), alcohol in combination with other substances (26%), other opiates/opioid analgesics (24%), antidepressants (22%), hypnotic/sedatives (19%) and methadone (12%).

In Scotland, the principal substances implicated were heroin/morphine (55%), benzodiazepines (48%), methadone (27%), cocaine (9%) and ecstasy-type drugs (4%).

Figure 1d takes into account data from both np-SAD and GROS where one of the following drugs was implicated: heroin/morphine, methadone, cocaine, or ecstasy-type drugs. In the majority of the cases, heroin was the principal drug implicated (64%).

5.2 Single Substances

The following substances, as the sole implicated drug, accounted for 641 (46%) deaths: heroin/morphine (19%), antidepressants (8%), other opiates/opioid analgesics (9%), methadone (3%), hypnotic/sedatives (2%), cocaine (2%), anti-psychotics (1%), amphetamines (1%), cannabis (0.6%), or ecstasy-type drugs (0.5 %).

6. Prescribed Psychoactive Medication (Table 3)

Altogether, 823 cases were reported to be receiving prescribed psychoactive medication at the time of their death.
Within this group prescribed medications of the following therapeutic drug classes were reported: antidepressants (50%); hypnotic/sedatives (46%); other opiate/opioid analgesics (28%); anti-psychotics (20%) and methadone (14%). "Polypharmacy", i.e. multiple prescriptions of psychoactive drugs, occurred in 50% of these cases.

Figure 1a. Drug-related deaths by age and gender in the United Kingdom

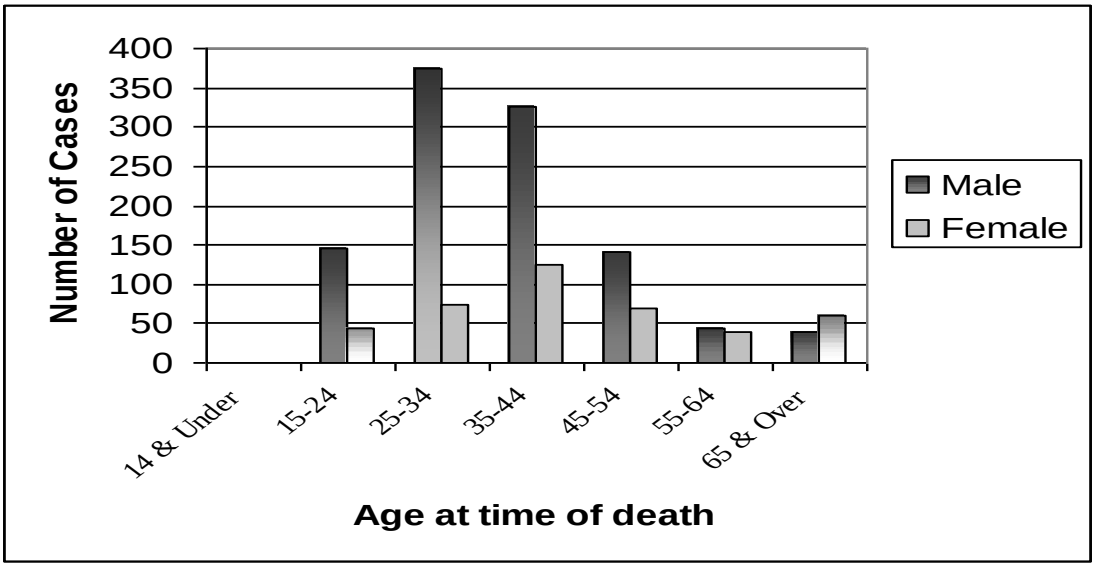


Figure 1b. Drug-related deaths by age in the United Kingdom

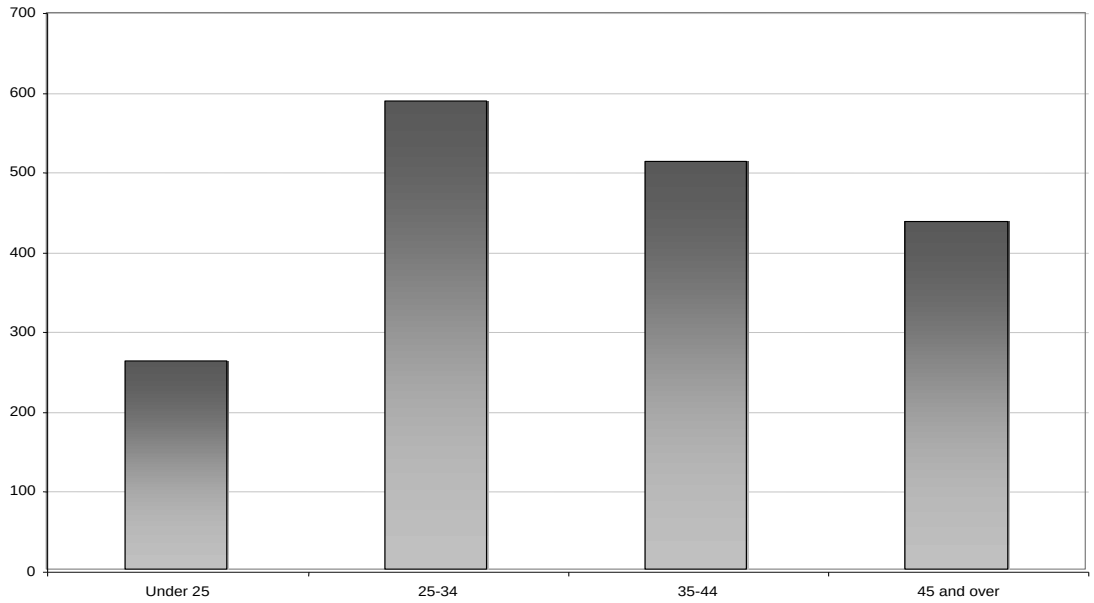


Figure 1c. Drug-related deaths by gender in the United Kingdom

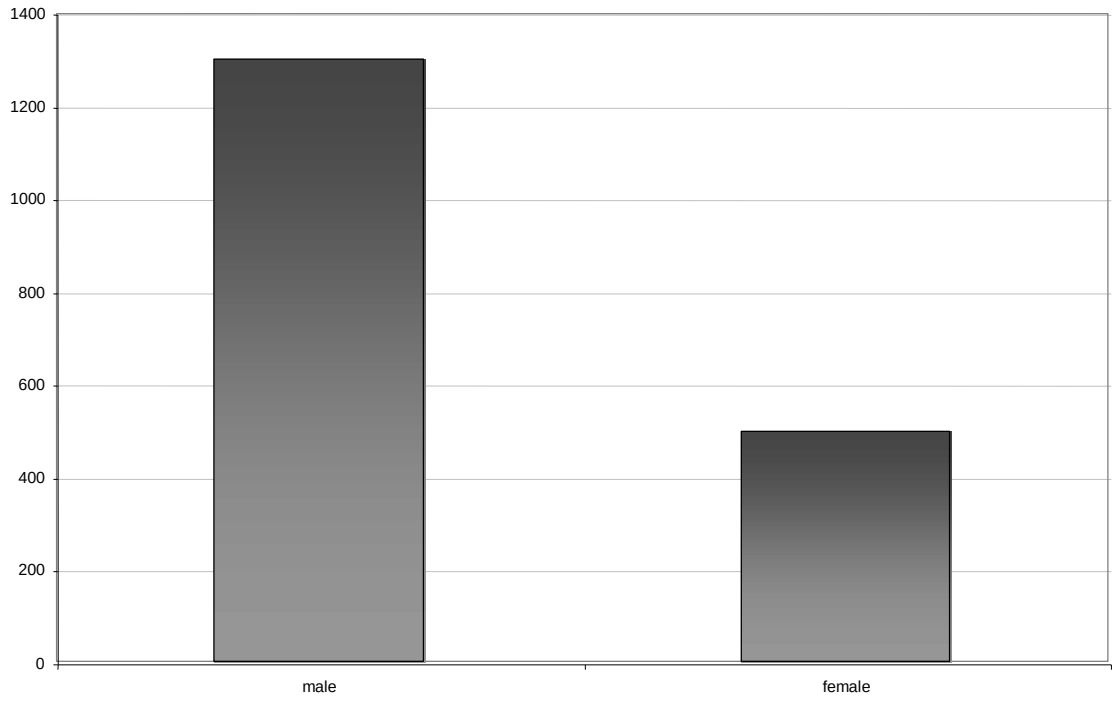


Figure 1d. Drug-related deaths by psychoactive drug implicated in the United Kingdom

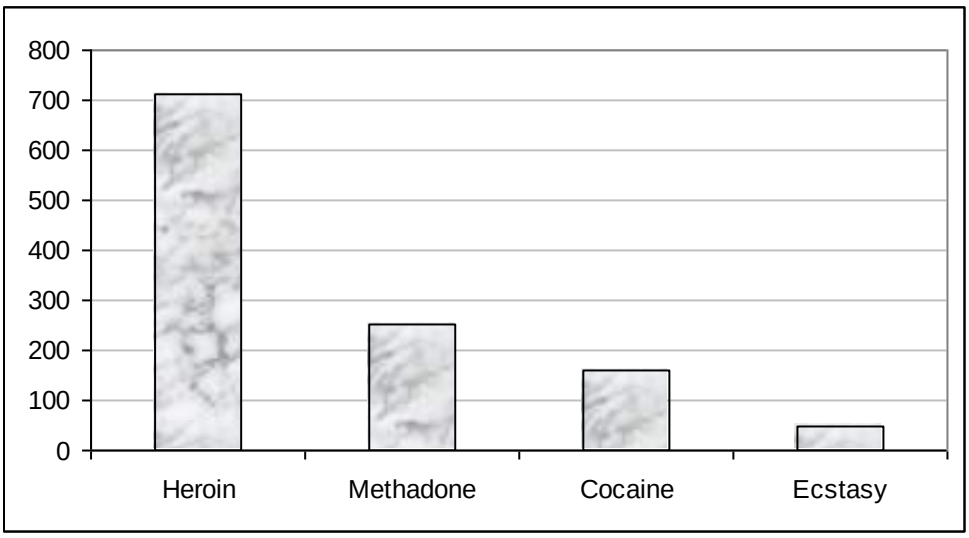


Table 2. Psychoactive substances implicated in death, January – December, 2003

Drug Category	No. of cases where no other substance was implicated (N = 1,399)	Total number of cases where drug was implicated (N = 1,399)
Alcohol	-	364 (26.0)
Amphetamines	15 (1.1%)	41 (3.0%)
Antidepressants	115 (8.2%)	305 (21.8%)
Antiepileptics	8 (0.6)	24 (1.7%)
Anti-psychotics	13 (0.9%)	57 (4.0%)
Cannabis	7 (0.5%)	28 (2.0%)
Cocaine	23 (1.6%)	132 (9.4%)
Ecstasy-type drugs	8 (0.6%)	34 (2.5%)
GHB	0 (0%)	2 (0.1%)
Heroin/morphine	260 (18.6%)	536 (38.3%)
Hypnotic/sedatives	33 (2.4%)	261 (18.7%)
Methadone	42 (2.8%)	167 (11.9%)
Other opiate/opioid analgesics	125 (8.9%)	337 (24.1%)

Table 3. Prescribed psychoactive medication, January - December 2003

Drug Category	No. of cases on prescribed psychoactive medication (n=823)	No. of cases where same drug was implicated in death
Amphetamines	4 (0.5%)	0 (0%)
Antidepressants	412 (50.1%)	231 (56.1%)
Anti-epileptics	67 (8.1%)	14 (20.9%)
Anti-psychotics	161 (19.6%)	45 (28.0%)
Heroin/morphine	19 (2.3%)	13 (68.4%)
Hypnotic/sedatives	375 (45.6%)	150 (40.0%)
Methadone	114 (13.9%)	59 (51.8%)
Other opiate/opioid analgesics	227 (27.6%)	160 (70.5%)

IV. Associated Risks

1. Prescribed Psychoactive Drugs (Table 3)

Of the 823 cases prescribed psychoactive medication at the time of their death, 96% had those drugs, alone or in combination with other drugs, implicated in their death.

1.1 Methadone

Methadone, alone and in combination with other drugs, was implicated in 167 cases. Of these, 35% were known to be receiving prescribed methadone prior to their death, compared to 65% who may have obtained methadone from illicit sources (Percentage ratio: PR = 0.6, 95% CI = 0.4 - 0.7).

Methadone alone was implicated in 42 cases. Of these, 48% were known to be receiving prescribed methadone, compared to 52% who may have obtained the drug from illicit sources (PR = 0.9, 95% CI = 0.6 – 1.4).

Altogether, it appears that methadone-related deaths are less likely to arise from licit than illicit methadone.

1.2 Antidepressants

Antidepressants, alone and in combination with other drugs, were implicated in 305 cases. Of these, 69% were known to be receiving prescribed antidepressants at the time of their death, compared to 31% who may have used drugs prescribed for others (PR = 2.2, 95% CI = 1.9 – 2.9).

Antidepressants alone were implicated in 115 cases. Of these, 78% were known to be receiving prescribed antidepressants, compared to 22% who may have used drugs prescribed for others (PR = 3.6, 95% CI = 2.5 – 5.2).

Those receiving prescribed antidepressants were significantly more likely to have that class of drug implicated in their death, either in combination or as the sole drug, compared to those who had apparently used drugs prescribed to others.

1.3 Other opiate/opioid analgesics

Other opiate/opioid analgesics (e.g. dihydrocodeine, dextropropoxyphene, etc) alone and in combination with other drugs, were implicated in 337 cases. Of these, 48% were known to be receiving prescribed opiate/opioid analgesics prior to their death, compared to 52% who may have obtained the drug by other means (PR =1.0, 95% CI = 0.8 – 1.1).

Other opiate/opioid analgesics alone were implicated in 125 cases. Of these, the drugs were known to be prescribed in 56% of cases and apparently obtained by other means in 44% of cases (PR = 1.2, 95% CI = 1.0 – 1.6).

1.4 Hypnotic/sedatives

Hypnotic/sedatives, alone and in combination with other drugs, were implicated in 261 cases. Of these 57% were known to be receiving a prescription for this class of drug, compared to 43% who may have obtained them illicitly (PR = 1.4, 95% CI = 1.1 – 1.6).

Thirty-three cases had hypnotic/sedatives alone implicated in their death, of whom 20 received the drug via prescription.

In summary, those prescribed hypnotic/sedatives were more likely to have that class of drug implicated in fatality.

2. Gender and accidental/intentional death

Fifty-eight percent (606) of male cases died of accidental poisoning, compared to 32% (142) of female cases (PR = 1.8, 95% CI = 1.6 – 2.1). This suggests that male cases are more likely to die of accidental poisoning than female cases.
Conversely, about 59% (260) of females died as a result of intentional self-poisoning, compared to 28% (269) of male cases (PR = 2.3, 95% CI = 2.0 – 2.6). This indicates that female cases are more likely to die of intentional self-poisoning than male cases.

3. Age and accidental/intentional death

Approximately 60% (655) of cases aged 44 years and under died as a result of accidental poisoning, compared to 23% (93) of those aged 45 years and over (PR = 2.6, 95% CI = 2.2 – 3.1).

Conversely, 67% (268) of cases aged 45 years and over died as a result of intentional self poisoning, compared to 26% (285) of cases under 45 years of age (PR = 2.5, 95% CI = 2.2 – 2.9).

4. Age and drug implicated in death

In cases aged 15-44 years, heroin/morphine (44%) was the most frequently mentioned drug contributing to fatality. In those aged 45 years and over, other opiates/opioid analgesics (37%) were the most frequently mentioned (Table 4).

5. Gender and drug implicated in death

The pattern of drug-specific fatality is somewhat different in male and female cases.

Among males, the most frequently mentioned drugs were heroin/morphine (42%), other opiates/opioid analgesics (19%), hypnotic/sedatives (15%), and anti-depressants (15%). Furthermore, there was a higher proportion of cases of drug-specific fatality among males in respect of the following drugs: cocaine, amphetamines, ecstasy-type drugs, and cannabis.

Among female cases, the most frequently mentioned drugs were antidepressants (34%), other opiate/opioid analgesics (31%), hypnotic/sedatives (23%), and heroin/morphine (21%).

Table 4. Age and drug implicated in death, January – December 2003

Age Group	Number	Drug category (alone or in combination) most frequently implicated in each age group
14 & under	1	Other opiates & opioid analgesics (1)
15–24 years	184	Heroin/morphine (45.7%)
25-34 years	467	Heroin/morphine (49.5%)
35-44 years	433	Heroin/morphine (37.6%)
45-54 years	207	Antidepressants (33.8%)
55-64 years	83	Antidepressants (43.4%)
65 & over	112	Other opiates/opioid analgesics (51.8%)

V. Drug Abuse/Dependence

Cases with a history of drug abuse/dependence (n = 923) were compared to those without such a history (n=465) on the following variables: demography, location of death and underlying cause of death.

Ninety-nine cases were reported as "not known" with respect to history of drug abuse/dependence. These cases were excluded from further analysis.

Demography

In comparison with non drug abusers (NDAs: 49%), drug abusers/dependents (DAs: 82%) were more likely to be male (PR = 1.7, 95% CI = 1.5 – 1.8) and under 45 years of age, 88% compared to 46% (PR = 1.6, 95% CI = 1.5 – 1.8). The median age at death for DAs was 33 years (semi-interquartile range = 6), while that for NDAs was 46 years (semi-interquartile range = 12) (Mann-Whitney U= 99323.5, p< 0.0005).

Location of Death

There was no significant difference between DAs and NDAs with respect to the location of their death. In both groups the majority died at home or in a defined residential address (DAs 63%, NDAs 73 %).

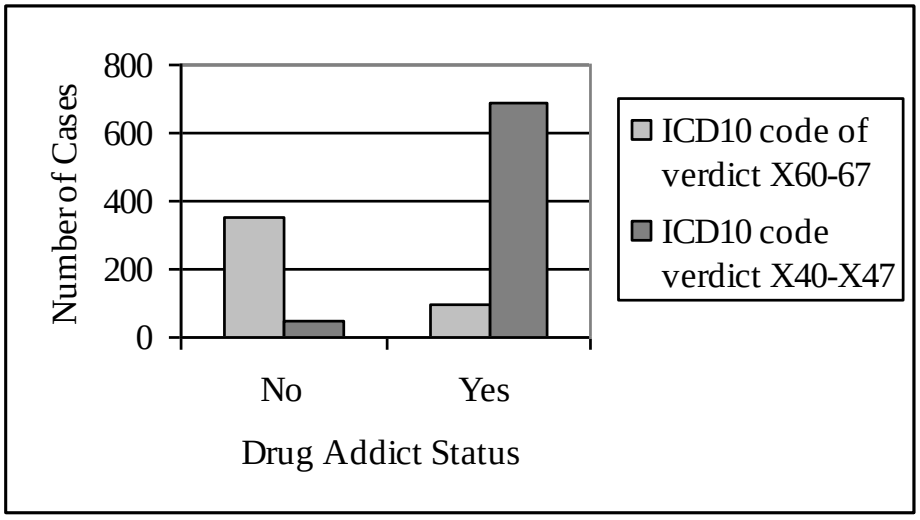
Also, hospital deaths accounted for similar proportions in both groups (DAs 28%, NDAs 23%). A higher proportion of DAs (10%) died in temporary accommodation or in public places than NDAs (5%).

Underlying Causes of Death

Accidental poisoning accounted for 73% of deaths in DAs, compared to 12% of NDA deaths (PR = 6.0, 95% CI =4.7 – 7.6).

Conversely, 82% of NDA deaths were the result of intentional self-poisoning, compared to 11% of DA deaths (PR = 7.6, 95% CI = 6.3 – 9.2).

Figure 2. Accidental/intentional death by drug abuse/dependence history



VI. Changes between 2002 and 2003

Demographic characteristics

The total number of drug-related deaths reported to np-SAD decreased by 6%, from 1,583 in 2002 to 1,487 in 2003. Since then, an additional set of 113 cases occurring in 2002 were reported in 2003/4, giving a total of 1,696 drug-related deaths in 2002. This updated figure was used in comparison with 2003.

The demographic profile of cases remained stable in 2003 with a non-significant decline in the proportion of cases that were living with others (-11%). However, there was no change in the distribution of location of fatality.

Underlying cause of death

The number and proportion of deaths due to intentional self-poisoning increased from 19% in 2002 to 37% in 2003. (PR = 1.9, 95% CI = 1.7 - 2.2).

Conversely, there was a decline in the proportion of accidental poisoning cases from 63% in 2002 to 50% in 2003 (PR = 0.8, 95% CI = 0.7 – 0.9).

Substances implicated in death: Multiple substances

In 2002, data on implicated drugs were available in 1,611 cases. Heroin/morphine remained the most frequently mentioned drug in 2003, having been implicated in 33% of deaths. Compared to 2002, there was a significant decrease in 2003 in the proportion of mentions of heroin/morphine (PR = 0.8, 95% CI = 0.7 – 0.9) and ecstasy-type drugs (PR = 0.6, 95% CI = 0.4 – 0.9). Also, there was a noticeable, though non-statistically significant, decrease in the number and proportion of mentions of methadone (Table 5).

Substances implicated in death: Single substance

There were no significant changes in 2002 and 2003 in the pattern of single substance drug-related fatalities. (Table 6).

Table 5. Changes in substances implicated in multiple substance*-deaths

Substance	2002 (N=1611)	2003 (N=1399)	Percentage Ratio (PR)	95% CI	% Change
Amphetamines	55	41	0.9	0.6 - 1.3	-14
Antidepressants	296	305	1.2	1.0 – 1.4	+19
Anti-epileptics	24	24	1.2	0.7 – 2.0	+15
Anti-psychotics	48	57	1.4	0.9 – 2.0	+37
Cannabis	34	28	0.9	0.6 – 1.6	-5
Cocaine	153	132	1.0	0.8 – 1.2	-0.6
GHB	3	2	0.8	0.1 – 4.6	-26
Ecstasy-type drugs	65	34	0.6	0.4 – 0.9	-40
Heroin/morphine	766	536	0.8	0.7 – 0.9	-19
Hypnotic/sedatives	301	261	1.0	0.9 – 1.2	-0.1
Methadone	197	167	1.0	0.8 – 1.2	-27
Other opiates / opioid analgesics	441	337	0.9	0.8 – 1.0	-12

**This table includes amended figures from those in the previous annual review due to the availability of additional information*

Table 6. Changes in substances implicated in single substance*-deaths

Substance	2002 (N=1611)	2003 (N=1399)	Percentage Ratio (PR)	95% CI	% Change
Amphetamines	11	15	1.6	0.7 – 3.4	+57
Antidepressants	100	115	1.3	1.0 – 1.7	+32
Antiepileptics	4	8	2.3	0.7 – 7.6	+128
Antipsychotics	9	13	1.7	0.7 – 3.9	+66
Cannabis	10	7	0.8	0.3 – 2.1	-19
Cocaine	25	23	1.1	0.6 – 1.9	+6
GHB	1	0	-	-	-
Ecstasy-type drugs	18	8	0.5	0.2 – 1.2	-51
Heroin/morphine	326	260	0.9	0.8 – 1.1	-8
Hypnotic/sedatives	30	33	1.3	0.8 – 2.1	+27
Methadone	41	42	1.2	0.8 – 1.8	+18
Other opiates / opioid analgesics	141	125	1.0	0.8 – 1.3	+2

**This table includes amended figures from those in the previous annual review due to the availability of additional information*

Changes in Jurisdictions with highest rates in 2002

The following jurisdictions reported annual drug related death rates of 10/100,000 or higher in 2002: Brighton & Hove (26.4); East Lancashire (15.7); North Northumberland (14.0); Hartlepool (13.0); East Riding & Hull (12.4); Blackpool & the Fylde (14.7); Manchester (11.3); Furness (11.1).
In these jurisdictions, no rate increase was observed. Most evident rate reduction was observed in: Hartlepool (-77%); East Riding and Hull (-65%); North Northumberland (-44%); Furness (-40%); Blackpool and the Fylde (-32%). (For these calculations, we took into account the number of cases in the same period each year).

Changes in Jurisdictions with lowest rates in 2002

The following jurisdictions reported annual drug related death rates of less than 1/100,000 in 2002: Isle of Man (0.03); Jersey (0.1); West Manchester (0.2); Cardiff and Vale of Glamorgan (0.3); North Lincolnshire & Grimsby (0.4); Coventry (0.4); Walsall (0.5); Herefordshire (0.7); The Wrekin (0.8); South End & South East Essex (0.8).

A rate reduction was observed in Cardiff/Vale of Glamorgan (-100%). On the other hand, in these jurisdictions most evident rate increase was observed in: South End and South East Essex (+ 574%); Coventry (+ 337%); Wrekin (+ 320%); Herefordshire (+ 108%). A sharp increase was observed also in the Isle of Man and Jersey. (For these calculations, we took into account the number of cases in the same period each year).

Jurisdictions with highest rates in 2003

The following jurisdictions reported annual drug related death rates higher than 10/100,000 in 2003: Brighton & Hove (25.3), East Lancashire (13.9); Boston & Spalding (12.09); Manchester (11.29); Guernsey (10.14); Scarsdale (10.02). Also the Isle of Man and Jersey reported annual drug related death rates in excess of 10/100,000 in 2003.

Jurisdictions with lowest rates in 2003

The following jurisdictions reported annual drug related death rates of less than 1/100,000 in 2003: Isle of Wight (0.93); Central & South East Kent (0.82); Central Hampshire (0.78); Cornwall (0.5);

Milton Keynes (0.0); Isles of Scilly (0.00); High Peak (0.0); North West Kent (0.0); Spilsby & Louth (0.0); City of London (0.0); South Northumberland (0.0); York (0.0); North Tyneside (0.0); Sunderland (0.0); Cardiff & the Vale of Glamorgan (0.0); Greater Belfast (0.0).

VI. Comparisons with other databases

Findings from the 2003 np-SAD analyses were compared with those from the Office of National Statistics (ONS, 2004) and the Drug Abuse Warning Network (DAWN) published (Office of Applied Statistics, 2004) in the USA.

ONS

The Office for National Statistics (ONS) published the 2002 statistics of deaths related to drug poisoning in England and Wales in 2004. Altogether, 2,685 deaths, where drug poisoning was the underlying cause were reported. This is a reduction of about 8% over the previous year (2001). Although, like the np-SAD the ONS has adopted the use of the ICD-10 classification, the ONS reporting system is still different from the np-SAD in some respects. According to the ONS (2001), the data reported could be inflated, given that multiple drug mentions were counted as single episodes, i.e., each drug episode may be counted more than once.

Secondly, the np-SAD determines cases by using criteria that do not permit double counting. Thirdly, the np-SAD collects data on whether the cases were prescribed particular drugs, which may or may not be implicated in death. Furthermore, the np-SAD collects data on drugs present at post mortem, which reduces the ambiguity in interpreting non-specific 'drug overdose' causes reported by coroners.

A meaningful comparison of np-SAD and ONS data can, therefore, be conducted only on selected multiple drug mentions without alcohol. The drugs considered in this review are heroin/morphine, antidepressants, methadone, cocaine, ecstasy-type drugs, cannabis, GHB, and hypnotics/sedatives. Opiate/opioid analgesics were excluded because of the narrow range of drugs in this therapeutic class that was given. Furthermore, those included were classified as paracetamol including compounds in the ONS report.

In the selected drug categories, there were 1,912 multiple drug mentions in the ONS data compared to 1815 in the np-SAD 2002 data. The distribution of drug mentions in both registers was similar in many respects except in the case of antidepressants and hypnotics/sedatives. The ONS reported a higher proportion of antidepressant mentions (21% vs 16%: PR = 1.3, 95% CI = 1.1 – 1.4) while the proportion of hypnotics/sedatives mentions was higher in np-SAD (17% vs 13%: PR = 1.3, 95% CI 1.1 – 1.5)

DAWN

Drug-related death distributions from DAWN and np-SAD metropolitan area (MA) profiles were compared. Data from a consecutive sample of ten metropolitan areas with a minimum of 2 million inhabitants covered by DAWN, and from Greater London and Greater Manchester jurisdictions, were used in this comparison. There were 4,899 cases reported in the DAWN MA profile, compared to 329 cases in the np-SAD profile. The majority of cases in the selected DAWN profiles (73%) were male. This figure was identical to DAWN's figure of the previous year (73%) reported in the last year's annual review. However, the gender distribution of the two metropolitan areas in np-SAD data for 2002 (68%) was somewhat different. Also, np-SAD MA profile revealed a significantly higher proportion of cases under the age of 45 years (75%) than DAWN (60%) (PR = 1.2, 95% CI = 1.1, 1.3). This difference in age distribution is identical to that reported in the 2002 annual review.

Manner of death

The proportion of accidental deaths in the np-SAD profile (60%) was significantly higher than in DAWN (51%) (PR 1.2, 95% CI = 1.1 – 1.3). Unlike in the previous year, the proportion of suicide in the np-SAD profile (21%) was significantly higher than that in the DAWN profile (12%) (PR = 1.7, 95% CI = 1.4 – 2.2). Conversely, the proportion of fatalities due to other causes, e.g., road traffic accidents, etc) was significantly higher in DAWN profile (37%) than in the np-SAD profile (16%) (PR = 2.3, 95% CI = 1.8 – 3.0).

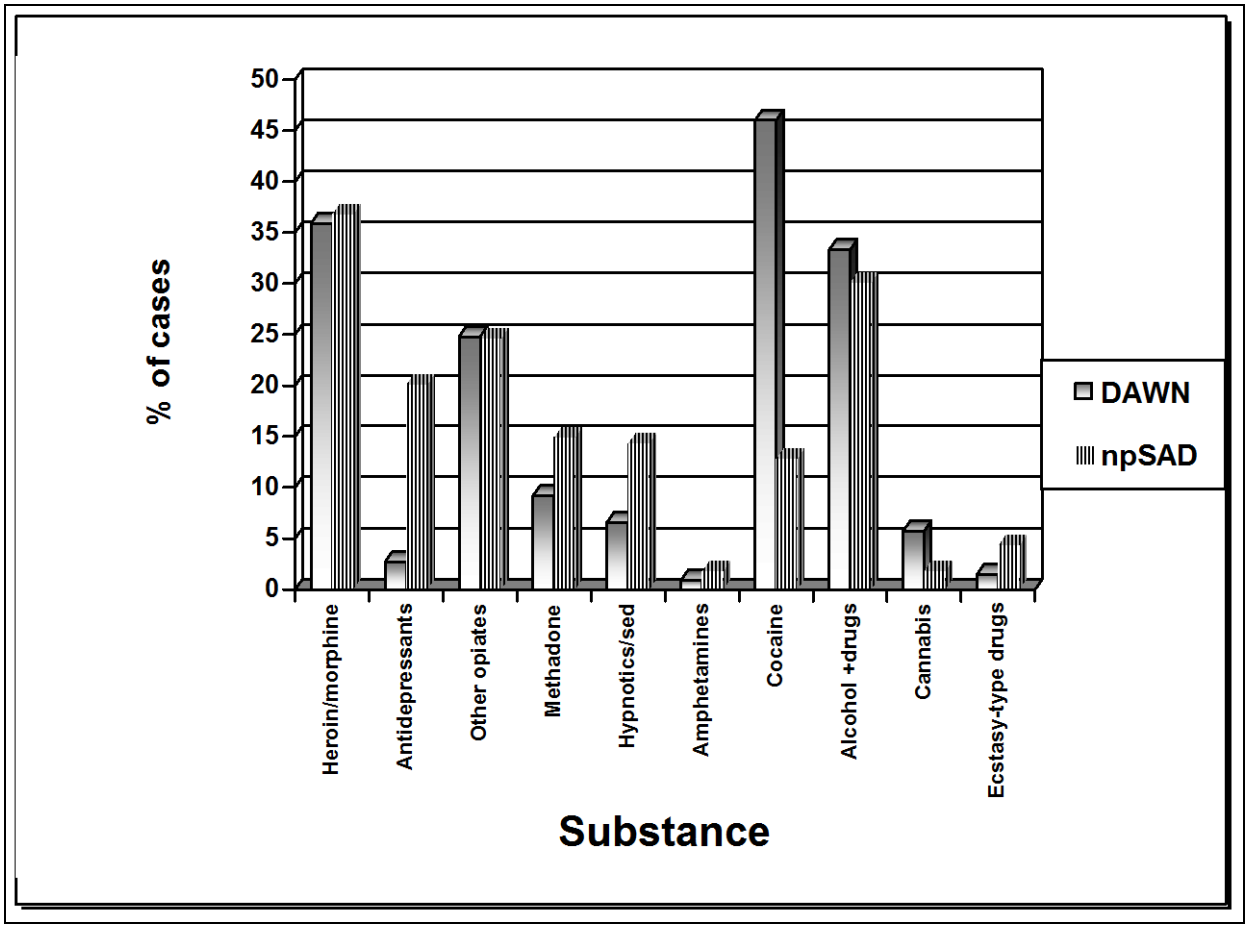
Substances implicated in death: All substances

The substances most frequently implicated in death as reported by DAWN were cocaine (46%), heroin/morphine (36%), alcohol-in-combination (33%), and other opiate/opioid analgesics (25%). Fatalities due to hypnotics/sedatives were less prominent than in previous years.

The distribution of implicated drugs was somewhat different between DAWN and np-SAD metropolitan area profiles in some respect. Cocaine (PR = 3.6, 95% CI = 2.7 – 4.8) and cannabis (PR = 3.1, 95% CI = 1.4 – 7.0) were more frequently

mentioned in the DAWN profile. Antidepressants (PR = 7.6, 95% CI = 5.7 – 9.9); methadone (PR = 1.6, 95% CI = 1.2. – 2.1); ecstasy-type drugs (PR = 2.8, 95% CI = 1.6 – 4.9) and hypnotics/sedatives (PR = 2.2, 95% CI = 1.6 – 2.9) were more frequently mentioned in the np-SAD profile (Figure 3).

Figure 3. Substances implicated in death – a comparison of np-SAD and DAWN 2002 metropolitan areas profile data



In summary, when compared to DAWN, np-SAD MA profile cases were more likely to be under the age of 45 years. The drug-specific fatality distribution of both registers was also significantly different. DAWN MA profile cases were more likely to have cocaine and cannabis mentioned in fatalities.

Conversely, np-SAD metropolitan areas profile cases were more likely to have antidepressants, methadone, hypnotics/sedatives and ecstasy-type drugs mentioned in fatality. Death by poisoning, accidental and intentional was more likely in np-SAD cases, while death from other causes was more likely in DAWN cases.

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VII. Commentary

This is the fifth annual review produced by the National Programme on Substance Abuse Deaths. This annual review is different from the semi-annual reports in that it reports on deaths that actually occurred in 2003, even where inquests were completed in 2004. The review, therefore, provides useful information that can assist policy makers, especially the National Treatment Agency and the Department of Health, to monitor the impact of service provision on drug-related morbidity and mortality. The demographic profile of cases remains consistent with last year's review. The majority of cases were males under the age of 45 years and 62% of the sample was drug abuser/dependent, as defined by the Programme.

Brighton & Hove recorded the highest annual death rate (25.3/100,000 population). This rate is lower than in 2002 (26.4) and in 2001 (28). East Lancashire reported the second highest annual death rate (13.9). Further areas of concern with relatively high annual drug-related death rates included: Boston & Spalding (12.09) and Manchester (11.29). Moreover, both the Isle of Man and Jersey jurisdictions have seen a sharp increase in number of DRDs with respect to the previous year. However, because of the small population of the Isle of Man in comparison with other areas, even limited changes in number of deaths can significantly modify the death rate per 100,000 inhabitants.

Milton Keynes (0.0), Isles of Scilly (0.0), High Peak (0.0), North West Kent (0.0), Spilsby & Louth (0.0), City of London (0.0), South Northumberland (0.0), York (0.0), North Tyneside (0.0), Sunderland (0.0), Cardiff & the Vale of Glamorgan (0.0), and Greater Belfast (0.0) recorded the lowest death rates in 2003.

On the whole, the present annual report has seen a 6% decrease in DRDs. Given that coroners' compliance rate (90%) is consistent with the previous year, the reduction that we have observed may be real rather than a reflection of low reporting rates by the coroners concerned. Similarly, the number of DRDs in England and Wales using the ONS definition, the EMCDDA definition and the UK Drug Strategy fell from a peak in 2000 in both 2001 and again in 2002. It may well be therefore that the pattern in the total number of np-SAD deaths in 2003 is a reflection of a real downward trend. It would seem that the prevention initiatives introduced by the local Drug and Alcohol Action Teams are beginning to make some desirable impact.

The number and proportion of deaths due to intentional self-poisoning increased from 19% in 2002 to 37% in 2003. Conversely, there was a decline in the proportion of accidental poisoning cases from 63% in 2002 to 50% in 2003. There appeared to be a decline in deaths directly caused by illicit drug poisoning. Conversely, there has been an increase in the proportion of fatalities due to traditonally prescribed psychoactive compounds, e.g. antidepressants, antipsychotics and anti-epileptics. In such cases, the group most at risk are the non-drug abusers, accounting for 82% of reported intentional poisoning fatalities. There are three possible explanations for these observations: a) coroners are more and more compliant with the np-SAD Programme and report more frequently deaths and figures which are not traditionally linked with the drug abuse scene; b) there is an increase in the use of prescribed medication to assist suicide, an issue recently commented on by our group (Cheeta et al, 2004); c) for the first time in 5 years rates of accidental poisonings decreased, a trend which will need to be confirmed in the future but which is certainly good news.

While the number of deaths due to heroin/morphine and opiates/opioids analgesics showed some decrease, we are still concerned by the non negligible rates of polydrug use patterns and associated fatalities that involve heroin/morphine, methadone, other opiates/opioid analgesics and stimulants (i.e. cocaine and less so, amphetamines, with or without alcohol).

Although rates of fatalities related to consumption of all illicit drugs have decreased, cocaine related deaths figures have remained substantially stable. It would seem that the fatal consequences of the growing widespread consumption of cocaine and its more addictive derivative 'crack' in the UK are becoming more evident. Previous np-SAD surveillance reports have indicated a steady increase in cocaine-related deaths since 1997. Further investigation and urgent policy responses have now become necessary.

This year (2003) witnessed a decrease of about 40% in the number of deaths involving ecstasy-type drugs. Eight cases had these drugs solely implicated in death, which means that for about 23% of the 2003 ecstasy-related deaths the real cause of death was not attributable to polydrug abuse, but to ecstasy alone, thus confirming earlier reports (Schifano et al, 2003). Another area of concern is fatalities due to methadone. Fatalities which involved this compound as the sole drug have increased by 18% in one year. We have, therefore, provided additional information on this issue.

IX. A Closer Look
Overview of clinical pharmacology and toxicity issues of methadone deaths

Introduction

A number of studies have recently discussed the role of methadone in related fatalities. Seymour et al (2003) determined the incidence of methadone as either the principal cause of death or as a contributing factor in drug related deaths in the Strathclyde Police region of Scotland and assessed the impact of supervised consumption of methadone on the number of deaths that occurred within each health board area within this region. Following a confidential enquiry into these deaths and a greater compliance from pharmacies supervising methadone consumption, deaths involving methadone had decreased by 48% in 1997. This was particularly evident in the Greater Glasgow Health Board Area, where methadone prescribing had continued to rise annually. Despite a continuing increase in the amount of methadone prescribed, methadone deaths in Strathclyde have decreased since 1996 due possibly to changes in both prescribing and clinical care. With efficient management to establish that the patient is complying with the guidelines of the programme and has stopped heroin misuse, the authors concluded that methadone can be a safe drug for substitution therapy.

Wolf et al (2004) reviewed cases investigated by the Palm Beach Medical Examiner's Office in which post mortem toxicological studies indicated the presence of methadone over the period from 1998 to 2002, to examine the role of the drug in these deaths. There were 139 methadone-positive cases, including 75 in which the death was attributed to combined drug toxicity and 23 to methadone toxicity alone. The concentrations of methadone detected indicated that it may not be possible to establish a lethal methadone range because some deaths occurred at methadone concentrations below previously reported lethal ranges, and because of the presence of other drugs.

Gagajewski and Apple (2003) reviewed the role of methadone in medical examiner deaths over a 10-year period, 1992-2002. A total of 96 cases were identified, with the majority white (90.5%) and male (76.8%). Methadone maintenance programme members were the minority (34.7%) of the methadone positive deaths and 39% were illicit users.

Musshoff et al (2003) discussed the forensic issues related to methadone prescription in Germany. In the years 1997-2001, they detected methadone in 398 cases that were analysed by the Institute of Legal Medicine, Bonn. Methadone was the sole drug in only 18 cases. In most of the cases, up to five additional drugs were also being taken, mostly benzodiazepines (61%), ethanol (40%), and morphine (39%).

Methadone: pharmacology, clinical pharmacology and toxicology issues

Methadone is a synthetic opioid which is used mainly for the treatment of opioid dependence. It is widely prescribed in oral liquid formulations and sometimes tablets. Injectable forms are also still fairly common in the UK. Methadone dominates the substitute opiate-prescribing market in the UK. Within the EU, the number of addicts being treated with methadone increased seven-fold between 1993 and 2000 (EMCDDA, 2000). Such use of the drug has increased as its advantages have become widely recognised: reducing criminal activity, costs of crime and illicit drug use by opiate addicts; improving social integration and employment prospects; reducing the morbidity and mortality of opiate users (Corkery et al, 2004).

Between 1993 and 2002 there were 3,604 deaths in the UK where methadone was mentioned on the death certificate out of a total of 32,276 cases notified to the General Register Offices during this period. This represents 11.2% of all such deaths, and is consistent with the patterns found in data from the np-SAD (Corkery et al, 2004). Given these data, it is important to know more about the nature of how these deaths are occurring.

The fact that methadone is mentioned on the death certificate does not imply it was necessarily implicated as the cause of death. In roughly one out of four of cases, deaths are not associated directly with the toxic effects of methadone (Corkery et al, 2004). Diversion may be a factor in many methadone-related fatalities. At least three-fifths of deaths associated with methadone in England and Wales are accounted for by the use of methadone which may have been illicitly obtained (Ghodse et al, 2003b).

Methadone appears in the blood stream within 30 minutes of being taken orally; it takes 2 to 4 hours for it to reach peak plasma concentrations. Methadone has a long but variable (15-55 hours) plasma half-life, but it is usually assumed to be 24 hours. In some drug-naïve persons, a single dose can have clinical effects up to 72 hours in duration. Methadone is widely distributed amongst tissues, is highly bound to tissue proteins and is chiefly metabolised in the liver. Its metabolites are excreted in the faeces (via bile) and urine together

with any unchanged methadone. Drug users with severe liver damage may have decreased ability to metabolise opioids. Care should therefore be taken when administering methadone to patients with hepatic impairment, since methadone plasma levels will be elevated and pose an overdose risk. Methadone takes two to three weeks to induce itself and thus the hepatic enzyme systems (which convert methadone to its metabolites) of new methadone users will therefore take longer to clear methadone from their bodies. Metabolism of methadone is very slow in individuals who have just started titration with the drug and/or are methadone-naïve. This, clearly, poses a risk of overdose especially during the initial phase of methadone treatment (Corkery et al, 2004).

There may be genetic variability in the response of a sub-group of individuals to the drug and their metabolism of it, making them more susceptible to overdose. Three types of metabolisers in respect of a genetic polymorphism of cytochrome P450 2D6 which assists in the processing of methadone have been identified: poor, extensive and ultra rapid. The cytochrome P450 3A4 enzyme system (CYP3A4) is the principal agent responsible for metabolising methadone. The other main enzymes responsible are CYP2D6 and CYP1A2. Any substance which interacts with the CYP3A4 enzyme could precipitate an interaction with methadone.

Methadone should only be administered following a thorough clinical assessment of opiate/opioid dependence and current level of drug consumption. For outpatient stabilisation the initial dose of methadone should be less than 30 mg (Department of Health, 1999). Titration of methadone doses is of paramount importance in avoiding the risk of overdose. The 'Drug Misuse and Dependence Guidelines in Clinical Management', known as the *'Orange Guidelines'* (Department of Health, 1999) suggest small increases in dosage of 5 to 10 mg/day when patients are commencing a methadone treatment.

Overdose deaths solely due to methadone are still relatively rare events. It is therefore important to consider the effects of other substances taken concurrently. Phenytoin, carbamazepine, rifampicin, fluconazole and some protease inhibitors cause induction of the CYP3A4 enzyme (whereas drugs such as paroxetine induce the CYP2D6 enzyme) and an increase in the metabolism of methadone and thus a decrease in its concentration. This lessens the risk of methadone-induced overdose but causes other clinical problems, mainly the onset of withdrawal symptoms. The concurrent administration of drug inducers such as benzodiazepines, barbiturates and opiates with methadone may result in significantly lower plasma levels of the drug. This in turn may trigger withdrawal symptoms and lead to individuals in methadone treatment seeking (extra) illicit drugs or prescription drugs especially benzodiazepines to alleviate their symptoms. In this way although the risk of overdose from methadone may be reduced, the risk of overdose per se is not diminished. This risk is further compounded by the fact that the effects of inhibitors are transient, and thus plasma levels of methadone will increase again.

A number of studies have found fatal post mortem (blood) concentrations in the range 0.2 mg/L - 4.5 mg/L, with the mean ranging from 0.8 mg/L to 1.4 mg/L (Corkery et al, 2004). It has been suggested that a lethal dose of methadone amongst non-dependent subjects is between 0.8 to 1.5 mg/kg of body mass, 50 mg for adults on average and 10 mg for children. A serum methadone concentration of over 0.4 mg/L may be enough to cause death from respiratory depression, yet levels of up to 1 mg/L have been found in living patients receiving treatment.

The signs of overdose associated with methadone include deep respiratory depression, unusually loud snoring, pin-point pupils, hypotension, circulatory failure, pulmonary oedema and coma. The following symptoms have been observed in children: drowsiness, limpness, pin-point pupils, and apnoea. Most deaths involving methadone result from respiratory depression and are more likely when the drug is used in combination with other drugs, including opiates and/or alcohol. Of particular significance in this regard are benzodiazepines which are also commonly prescribed with methadone for the treatment of drug dependence. Benzodiazepines and alcohol individually act only relatively weakly to depress the respiratory system. When combined with methadone, however, they increase these effects of the drug. It has also been reported that benzodiazepines may increase upper airways obstruction and thus contribute to deaths from methadone toxicity. Methadone can block nerve conduction through membrane stabilizing activity and this can result in complications such as cardiovascular collapse or cardiac arrhythmias. Although there are numerous deaths associated with methadone each year, many of them are preventable. Improvements in the monitoring of methadone prescribing and dispensing should help to reduce the number of deaths involving this opioid.

In conclusion, we feel that methadone, like any other compound, may be a toxic drug if not prescribed appropriately for individuals who are dependent. It has to be prescribed in the right amount to the right individuals and for the correct indication.

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XI. Introduction

A total of 110 coroners' jurisdictions (from England, Wales, the Isle of Man and the Channel Islands) provided returns for this surveillance report, which covered the period July to December 2003. Some coroners provided 'nil returns' (confirmation from coroners that there were no inquests involving drug-related deaths for that period).

Overall, this report covers approximately 90% of jurisdictions in England, Wales, the Isle of Man and Channel Islands. There are a number of possible reasons for not reporting. For example, the coroners' workload may prevent the notification of inquests, or there may be an assumption that a 'nil return' does not have to be reported. This highlights the importance of maintaining and resourcing a surveillance system to which coroners are willing and able to contribute on a continuous basis. There is also a need to provide appropriate training and resources to enable coroners to co-operate effectively with the requirements of a surveillance system.

XII. Profile of cases

1. Demography

A total of 763 drug-related deaths were reported to the programme for the period July to December 2003. The majority of cases were male (n=526, 69%). The median age at death was 36 years (Figure 4). About 48% of cases were unemployed. Approximately 46% of cases were living alone or were of no fixed abode at the time of their death (Table 7).

Figure 4. Drug-related deaths by age and gender

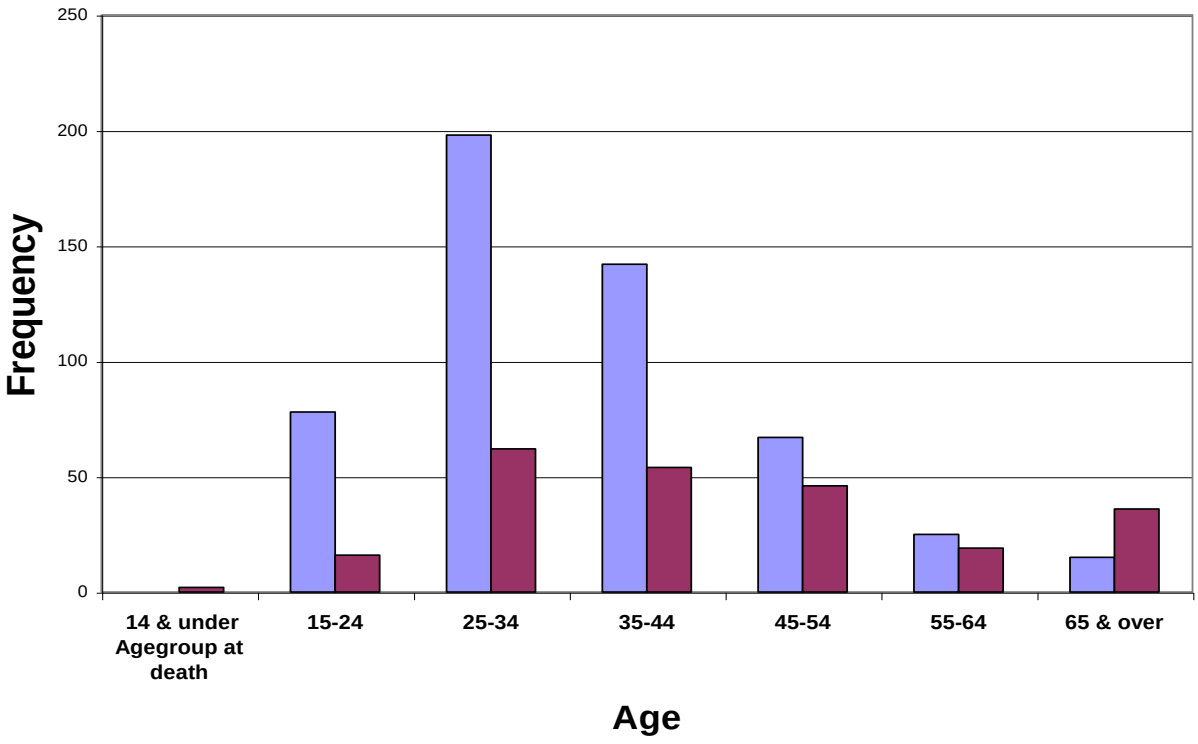


Table 7. Demographic variables

		July – December 2003 (%) N = 763
Gender	Male	68.9
	Female	31.1
Employment status	Unemployed	48.3
	Employed	28.6
	Childcare/houseperson	1.7
	Student	1.4
	Retired/sickness/ Invalidity	12.3
	Other	1.2
	Not Known	6.6
Living arrangements	Alone	41.8
	With others	38.7
	No fixed abode	4.5
	Other	6.8
	Not known	8.2

2. Drug-Related Death Rates

The following jurisdictions recorded the highest semi-annual drug-related death rate per 100,000 population aged of 16 years and over: Brighton & Hove (12.4); Greater Belfast (5.89); Scarsdale (5.73); Jersey (5.55); Manchester (5.49); Southern Cumbria & Furness (5.17) (Appendix 9). The highest proportion of drug-related cases expressed as a percentage of the total number of inquests held was reported by Brighton & Hove (15.43%), Jersey (10.8%), Bedfordshire (7.66%), Gwent (7.65%), Armagh and Craigavon (7.2%), (7.14%) and Western London (7.14%).

3. Location of Death

Location of death was reported in all cases. Of these, 68% of cases died in a defined residence (i.e. the deceased's home address or other private residential address), 25% died in hospital and 6% died elsewhere (e.g. in a public place).

4. Underlying Causes of Death

To enable comparison with various national and international data-sets all causes of death have been coded according to the International Classification of Diseases (ICD-10). This is an international standard for the classification of diseases and health related problems published by the World Health Organisation

(1992). The proportions of ICD-10 categories of underlying causes of death were as follows:

-Accidental poisoning (X40-47) 49%
-Intentional self-poisoning (X60-67) 33.8%
-Other (e.g. natural causes, hanging, unascertained) 17%

Table 8. Psychoactive substances implicated in death, July - December 2003

Drug Category	No. of cases where no other substance implicated N=760 (%)	Total number of cases where drug implicated N=760 (%)
Alcohol	3(0.3)	182(24)
Amphetamines	8(1.0)	21(2.7)
Antidepressants	62(8.1)	160(21.0)
Antiepileptics	4(0.5)	13(1.7)
Anti-psychotics	7(0.9)	35(4.6)
Cannabis	4(0.5)	13(1.7)
Cocaine	10(1.3)	57(7.5)
Ecstasy-type drugs	4(0.5)	14(1.8)
GHB	0(0)	1(0.1)
Heroin/morphine	129(17.0)	261(34.3)
Hypnotic/sedatives	19(2.5)	139(18.2)
Methadone	20(2.6)	72(9.5)
Other opiate/opioid analgesics	65(8.5)	173(22.7)

5. Substances Implicated in Death (Table 8)

5.1 All Substances

The principal substances implicated in fatalities were heroin/morphine (34%), alcohol in combination with other substances (24%), other opiates/opioid analgesics (23%), antidepressants (21%), hypnotic/sedatives (18%), and methadone (10%).

5.2 Single Substances

The following substances, as the sole implicated drug, accounted for 335 (44%) deaths: heroin/morphine (17%); other opiates/opioid analgesics (9%); antidepressants (8%); methadone (3%); hypnotic/sedatives (3%), cocaine (1%); anti-psychotics (1%); amphetamines (1%) (Table 6).

6. Prescribed Psychoactive Medication (Table 9)

Four hundred and fifty three cases were known to be receiving prescribed psychoactive medication at the time of their death. Prescribed medications were reported in the following proportions for these therapeutic drug classes: antidepressants 48%; hypnotic/sedatives 41%; other opiates/opioid analgesics 22%; anti-psychotics 20%, methadone 9%; anti-epileptics 6%.

"Polypharmacy", i.e. multiple prescriptions of psychoactive drugs, occurred in 21% of these cases.

Table 9. Prescribed psychoactive medication, July-December 2003

Drug Category	July-December 2003 No. of cases on prescribed psychoactive medication n=453 (%)	July-December 2003 No. of cases where same drug implicated in death (%)
Amphetamines	2(0.4)	0(0)
Antidepressants	218(48.1)	123(56.4)
Anti-epileptics	28(6.2)	7(25.0)
Anti-psychotics	89(19.6)	31(34.8)
Heroin/morphine	4(0.9)	3(75.0)
Hypnotic/sedatives	187(41.2)	76(40.6)
Methadone	42(9.3)	21(50.0)
Other opiate/opioid analgesics	100(22.0)	74(74.0)

XIII. Associated Risks

1. Prescribed Psychoactive Drugs

Of the 453 cases prescribed psychoactive medication at the time of their death, 98% had those drugs implicated in their death (Table 9).

1.1 Methadone

Methadone, alone and in combination with other drugs, was implicated in 72 cases. Of these, 29% were known to be receiving prescribed methadone prior to their death, compared to 71% who may have obtained methadone illicitly (Percentage ratio: PR = 0.4, 95% CI = 0.3 – 0.6).

Methadone alone was implicated in 20 cases. More methadone deaths seem to have arisen from illicit sources than from prescription sources. Altogether, methadone-related deaths still appear to more likely to arise from illicit than prescribed methadone.

1.2 Antidepressants

Antidepressants, alone and in combination with other drugs, were implicated in 160 cases. Of these, 68% were known to be receiving prescribed antidepressants at the time of their death, compared to 32% who used drugs that may have been prescribed for others (PR = 3.3, 95% CI = 2.5 – 4.5).

Antidepressants alone were implicated in 62 cases. Of these, 82% were known to be receiving prescribed medication, compared to 18% who had used drugs that may have been prescribed for others (PR = 4.6, 95% CI = 2.7-8.0).

This indicates that those receiving prescribed antidepressants were significantly more likely to have that class of drug implicated in their death, either in combination or as the sole drug.

1.3 Other opiates/opioid analgesics

Other opiates/opioid analgesics (e.g. dihydrocodeine, dextropropoxyphene) alone and in combination with other drugs, were implicated in 173 cases. Of these, 42% were known to be receiving prescribed opiates/opioid analgesics prior to their death, compared to 58% who may have obtained the drug by other means (PR = 0.7, 95% CI = 0.6 – 0.9).

Other opiates/opioid analgesics alone were implicated in 65 cases. Of these, the drugs were known to be prescribed in 53% of cases and could have been obtained by other means in 47% of cases (PR = 1.1, 95% CI = 0.7 –1.6).

The risk of fatality from other opiate/opioid analgesics was less likely to occur in those prescribed these drugs than in those who obtained them from other sources.

1.4 Hypnotic/sedatives

Hypnotic/sedatives, alone and in combination with other drugs, were implicated in 139 cases. Of these, 55% were known to be receiving a prescription for this class of drug, compared to 45% who could have obtained them illicitly (PR = 1.2, 95% CI = 0.9 – 1.5).

Nineteen cases had hypnotic/sedatives alone implicated in their death, of whom 12 received this drug category via prescription.

2. Gender and Cause of Death

Approximately 56% of male cases died of accidental poisoning compared to 33% of female cases (PR = 1.7, 95% CI = 1.3 – 2.0). This suggests that male cases are more likely to die as a result of an accident than female cases.

Conversely, 51% of females died as a result of intentional self-poisoning, compared to 26% of male cases (PR = 1.9, 95% CI = 1.6 – 2.3). This suggests that females are twice as likely to die of intentional self-poisoning as male cases.

3. Age and accidental/intentional death

Approximately 60% of cases aged 44 years and under died as a result of accidental poisoning, compared to 19% of those aged 45 years and over (PR = 3.1, 95% CI = 2.3 – 4.1).

Conversely, 60% of cases aged 45 years and over died as a result of intentional self poisoning, compared to 25% of cases under 45 years of age (PR = 2.3, 95% CI = 2.0 – 2.9).

4. Age and drug implicated in death

The most frequently implicated drugs among cases aged 44 years and under were opiates, notably heroin/morphine. Other opiates/opioid analgesics and antidepressants were most frequently implicated in cases over 45 years (Table 10).

4. Gender and drug implicated in death

Male: Heroin/morphine, alone or in combination with other drugs, was implicated in 40% of male cases; alcohol, in combination with other drugs, in 26% of cases; other opiates/opioid analgesics, alone or in combination with other drugs, in 19% of cases; hypnotic/sedatives, alone or in combination with other drugs, in 15% of cases; and antidepressants, alone or in combination with other drugs, in 15% of cases.

Female: Antidepressants, alone or in combination, were implicated in 34% of female cases; other opiates/opioid analgesics, alone or in combination with other drugs, were implicated in 27% of all female cases; hypnotic/sedatives, alone or in combination with other drugs, in 26% of cases; heroin/morphine, alone or in combination with other drugs, in 21% of cases; and alcohol, in combination with other drugs, in 20% of cases.

Table 10: Age and drug implicated in death, July – December 2003

Age Group	n	Drug Category (alone or in combination) most frequently implicated with age group
15 – 24 years	94	Heroin/morphine (46.8%)
25 – 34 years	260	Heroin/morphine (47.3%)
35 – 44 years	196	Heroin/morphine (34.7%)
45 – 54 years	113	Antidepressants (33.6%)
55 – 64 years	44	Antidepressants (45.5%)
65 years and over	51	Other opiate/opioid analgesics (51.0%)

XIV. Drug Abuse/Dependence

Cases with a history of drug abuse/dependence (n = 469) were compared to those without such a history (n=240) on the following variables: demography, location of death and underlying cause of death.

Fifty one cases were reported as "not known" with respect to history of drug abuse/dependence. They were excluded from further analysis.

Demography

In comparison with non-drug abusers (NDAs: 48%), drug abusers/dependents (DAs: 80%) were more likely to be male (PR = 1.7, 95% CI = 1.5 – 2.0) and more likely to be less than 45 years of age, 88% vs 44% (PR = 1.6, 95% CI = 1.4 – 1.8). The median age at death for DAs was 31 years, while that for NDAs was 48 years (Mann-Whitney U= 26515.0, p< 0.0005).

Underlying Causes of Death

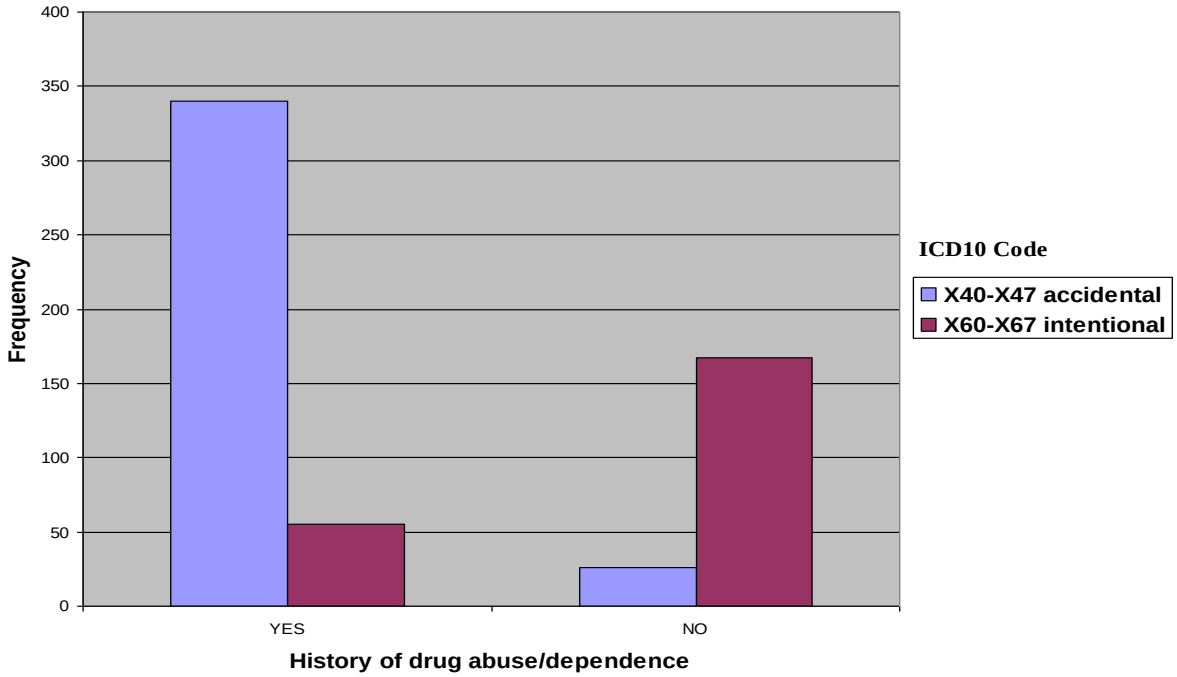
Accidental poisoning accounted for 72% of deaths in DAs, compared to 11% of NDA deaths (PR = 6.7, 95% CI = 4.6 – 9.6).

Conversely, 70% of NDA deaths were the result of intentional self-poisoning, compared to 12% of DA deaths (percentage ratio = 5.9, 95% CI = 4.6 – 7.7).

Location of Death

There was no statistically significant difference between DAs and NDAs with respect to the location of their death. In both cases the majority died at a defined residential address (DAs = 64%; NDAs = 76%). Drug Addicts were more likely to die in hospital, 28%, than non drug addicts 20% (percentage ratio=0.8, 95% CI= 0.7-0.9)

Figure 5. Accidental/intentional death by drug abuse history



XV. Commentary

The demographic profile of cases remains consistent with previous reports. For the period of this report, the majority of cases were males under the age of 45 years and 66% of cases were drug abusers/dependents, as defined by the Programme.

A stated aim of the Programme is to provide early warning through surveillance of high-risk populations. For the period July to December 2003, Brighton & Hove recorded the highest semi-annual death rate (12.4/100,000).

Previous reports have highlighted areas with marked changes in semi-annual death rates and noted that the validity of these changes could only be commented on through continued monitoring. Those areas are revisited in this report as well as newly identified areas where death rates have fluctuated (Appendix 10).

Jurisdictions that stood out from others in this report as a result of an increase in the number of reported cases since the previous comparable reporting period (July-December 2002) (which resulted in increased semi-annual death rates since the previous reporting period) were: Southend and South End Essex (0.38 to 2.39/100,000); West Manchester (0.16 to 2.02/100,000); and Boston & Spalding (0.0 to 3.72/100,000).

Conversely, the jurisdictions which reported a marked decline in the number of cases reported since the previous 6-month period (which resulted in a decline in their semi-annual death rates) were: South and West Cambridgeshire (4.64 to 0.64/100,000); East Riding and Hull (from 8.12 to 1.6/100,000) and Blackburn, Hyndburn and Ribble Valley (from 5.19 to 0.5/100,000). Looking at the trends over a longer period, it can be seen that the mortality rates in Hartlepool have varied from 1.5 to 11.5/100,000 and now the semi-annual death rate is 2.98/100,000. In North Northumberland, rates had varied between 3.24 and 6.71 and now the rate is 2.24/100,000. In Blackburn, Hyndburn & Ribble Valley rates had varied between 1.49 and 5.19 and now the rate is 0.50/100,000. Rates in some jurisdictions are subject to large variations because of the relatively small population, e.g., Boston & Spalding, Lincoln and Pembrokeshire.

After reporting a large increase in its death rate for July-December 2000 (11.5), the rate in Peterborough subsequently fell to 4.9 in July-December 2001 and now it has fallen to 3.37. Following death rates of 5.3 and 5.9 in 1999,

Blackpool & Fylde reported a larger increase in January-June 2000; the rate subsequently fell and in the current period is 4.68.
The rates in the following jurisdictions increased in the past over three consecutive reporting periods, to fall back recently. In North East Cumbria rates went from 5.0 to 7.4 and now to 2.55; in Exeter & Greater Devon rates went from 2.8 to 3.9 and now to 1.8. The rate in Inner South London increased over the last periods from 0.7 to 3.4 but has now fallen back to 2.6.

In general, it would seem that local prevention initiatives in these areas are beginning to yield some positive outcomes. However, it should be noted that such changes might be an artefact of other factors which affect the way in which inquests are processed, e.g. prolonged investigations, increased workload, etc.

We conducted some comparisons between this report and earlier reports (Ghodse et al, 2002a; Ghodse et al, 2002b; Ghodse et al, 2003a; Ghodse et al, 2003b; Ghodse et al, 2004). The percentage of deaths where antidepressants are implicated has risen from 12.9% in January-June 2001 to 15.4% in July-December 2001 and 18.8% in July–December 2002. Similarly, the percentage of cases where antidepressants were prescribed has risen from 47.2% to 49.3% over the same period and now is 48.1%. Where antidepressants were prescribed, the percentage of deaths in which antidepressants were implicated increased from 42.2% to 44.5% and now is 56.4%.

While the pattern of other drug-specific mortality remains stable, comparisons between July to December 2003 and the same period in 2002 revealed the following noticeable changes:

-11% decrease in the number of drug-related deaths

-about 25% decrease in fatalities due to amphetamines

-about 23% decrease in cocaine related deaths

-about 49% decrease in deaths due to ecstasy-type drugs

-about 29% decrease in deaths due to heroin/morphine

-about 17% decrease in deaths due to methadone

These changes reveal a decreasing trend in fatalities due to polydrug use that involves combined use of opiates, cocaine and ecstasy-type drugs. Any reduction in death rates is always good news. However, there is a need for further investigation in order to confirm the consistency in this decline.

XVI. References

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XVII. List of Appendices

APPENDIX 1: Underlying causes of death, January–December 2003

ICD-10	No. of cases (n=1487)	%	Description
R99	32	2.2	Unascertained
X40	3	0.2	Accidental poisoning by & exposure to non-opioid analgesics, antipyretics and antirheumatics
X41	96	6.5	Accidental poisoning by & exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X42	291	19.6	Accidental poisoning by & exposure to narcotics and psychodyslectics (hallucinogens), not elsewhere classified
X43	0	0	Accidental poisoning by & exposure to other drugs acting on the autonomic nervous system
X44	2	0.1	Accidental poisoning by & exposure to other and unspecified drugs, medicaments and biological substances
X45	4	0.3	Accidental poisoning by & exposure to alcohol
X46	0	0	Accidental poisoning by organic solvents, halogenated carbons, and their vapours
X47	1	0.1	Accidental poisoning by & exposure to gases and vapours
X60	2	0.1	Intentional self-poisoning by & exposure to non-opioid analgesics, antipyretics and antirheumatics
X61	133	8.9	Intentional self-poisoning by & exposure to antiepileptic sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X62	78	5.2	Intentional self-poisoning by & exposure to narcotics and psychodyletics (hallucinogens), not elsewhere classified
X63	2	0.1	Intentional self-poisoning by & exposure to other drugs acting on the autonomic nervous system
X64	1	0.1	Intentional self-poisoning by & exposure to other and unspecified drugs, medicaments and biological substances
X65	0	0	Intentional self-poisoning by alcohol
X67	1	0.1	Intentional self-poisoning by exposure to gases and vapours
X70	32	2.2	Intentional hanging

APPENDIX 1: Underlying causes of death, January – December 2003

ICD-10	No. of cases (n=1487)	%	Description
X71	1	0.1	Intentional drowning
T43.5	7	0.5	Anti-psychotics, other overdose
T40.1	168	11.3	Heroin overdose
T42.1	1	0.1	Carbamazepine overdose
T40.2	44	3.0	Opioid overdose
T40.4	52	3.5	Poisoning by synthetic opioid analgesics
T42.4	12	0.8	Benzodiazepine overdose
T40.3	32	2.2	Methadone overdose
T40.5	6	0.4	Cocaine overdose
T43.6	2	0.1	Psychostimulant overdose (e.g. amphetamine)
Z72.2	1	0.1	Drug abuse personal history
T42.2	1	0.1	Anti-parkinsonian overdose
Y11	96	6.5	Open verdict poisoning by antiepileptic/ sedatives/ antiparkinsonism drugs
Y12	57	3.8	Open verdict poisoning by narcotics/psychodyslectics
T58, X09	7	0.4	Asphyxiation from foreign body in respiratory tract, toxic gases, fumes or vapours
T17.9	30	2.0	Aspiration of gastric contents
T71, R09.0	10	0.6	Asphyxiation including suffocation by strangulation (hanging) excludes J80, T17, & T59
W76	4	0.3	Hanging, accidental
W71, W73	5	0.3	Drowning
S02.7, S06.2, S06.5, S09.9, S14.1, S41.7, T07, T75.4, T30.0, S18, S39.8, T06	31	2.1	Multiple injuries; injury to the head, skull, neck or shoulders; decapitation, intra-cranial injury; injury to the abdomen, lower back or pelvic; electrocution; burns

APPENDIX 1: Underlying causes of death, January-December 2003

I61.9, I42.6, I42.6, I25.1, I35.8, I30.1 R09.2, I21.9, I49.9, I50.1, I33, I51.8, I74.0, I50.9	84	5.6	Cardiovascular system – diseases, defects or conditions affecting
J18, J18.1, J18.9, J96.9, J85.2, X09, J85.1, J70.9, I26.9, J96.0, J69.0, J80, J81, R04.8	102	6.9	Respiratory system – pneumonias, defects or conditions not specified elsewhere
A41.9	14	1	Septicaemia
Other	42	2.8	Other or natural causes

APPENDIX 2: Drug-related deaths by coroner's jurisdiction, January – December 2003. No. of cases, rate per 100,000 population (16 years old and over) and deaths in 2002 reported in 2003/4

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2003	Annual death rate per 100,000 population [1]	np-SAD 2002 deaths reported in 2003/4 [2]
Queen's Household	0	0.00	0
ENGLAND			
AVON	37	4.78	0
BEDFORDSHIRE	27	6.31	0
BERKSHIRE	13	2.50	0
BUCKINGHAMSHIRE			
Buckinghamshire	7	1.56	0
Milton Keynes	0	0.00	0
CAMBRIDGESHIRE			
North & East Cambridgeshire	3	2.38	0
Peterborough	9	7.58	0
South & West Cambridgeshire	12	3.83	0
CHESHIRE	21	2.77	1
CORNWALL			
Cornwall	2	0.50	1
Isles of Scilly	0	0.00	0
CUMBRIA			
North Eastern Cumbria	6	3.83	0
Southern Cumbria & Furness	9	6.65	0
Western Cumbria	7	7.73	0
DERBYSHIRE			
Derby & South Derbyshire	15	3.38	0
High Peak	0	0.00	0
Scarsdale	21	10.02	0
DEVON			
Exeter & Greater Devon	13	2.89	1
Plymouth & South West Devon	6	2.40	22
Torbay & South Devon	8	5.27	1
DORSET			
Bournemouth, Poole & Eastern Dorset	14	3.69	0
Western Dorset	7	4.03	0
DURHAM			
Darlington & South Durham	6	2.87	3
North Durham	3	1.21	0
ESSEX			
Essex & Thurrock	13	1.30	1
Southend & South East Essex	13	5.19	0

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2003	Annual death rate per 100,000 population [1]	np-SAD 2002 deaths reported in 2003/4 [2]
EAST SUSSEX			
Brighton & Hove	51	25.30	0
East Sussex	34	8.81	13
GLOUCESTERSHIRE			
Cheltenham	4	1.81	0
Gloucester	13	6.03	1
GREATER MANCHESTER			
Manchester	37	11.29	2
North Manchester	18	4.02	0
South Manchester	25	4.64	1
West Manchester	13	2.19	5
HAMPSHIRE			
Central Hampshire	2	0.78	0
North East Hampshire	8	2.74	0
Portsmouth & South East Hampshire	9	2.14	0
Southampton & New Forest	22	7.16	0
HERTFORDSHIRE	43	5.44	0
HEREFORDSHIRE	2	1.46	0
HUMBERSIDE			
East Riding & Hull	19	4.35	11
ISLE OF WIGHT	1	0.93	1
KENT			
Central & South East Kent	2	0.82	0
Mid Kent & Medway	19	4.96	0
North East Kent	-	-	-
North West Kent	0	0.00	0
LANCASHIRE			
Blackburn, Hyndburn & Ribble Valley	3	1.49	0
Blackpool & the Fylde	17	9.94	0
East Lancashire	25	13.87	0
Preston & West Lancashire	17	3.20	0
LEICESTERSHIRE			
Leicester City & South Leicestershire	-	-	-
Rutland & North Leicestershire	-	-	-
LINCOLNSHIRE			
Boston & Spalding	13	12.09	0
North Lincolnshire & Grimsby	-	-	-
Spilsby & Louth	0	0.00	0
Stamford	1	1.03	0
West Lincolnshire	8	4.09	3

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2003	Annual death rate per 100,000 population [1]	np-SAD 2002 deaths reported in 2003/4 [2]
LONDON			
City of London	0	0.00	0
Eastern London	15	1.83	0
Inner North London	61	9.88	0
Inner South London	32	4.20	1
Inner West London	34	4.84	0
Northern London	30	3.00	1
Southern London	12	1.53	0
Western London	80	8.14	6
MERSEYSIDE			
Knowsley, St Helens & Sefton	13	2.83	0
Liverpool	24	7.12	0
Wirral	15	6.30	0
NORFOLK			
Great Yarmouth	0	0.00	0
Kings Lynn	4	3.68	0
Norwich & Central Norfolk	12	2.62	1
NORTHAMPTONSHIRE	27	5.58	1
NORTHUMBERLAND			
North Northumberland	7	7.83	0
South Northumberland	0	0.00	0
NORTH YORKSHIRE			
North Yorkshire Eastern	3	1.58	0
North Yorkshire Western	3	1.17	0
York	0	0.00	6
NOTTINGHAMSHIRE	20	2.53	0
OXFORDSHIRE	3	0.64	3
SHROPSHIRE			
Mid & North Shropshire	2	1.35	0
South Shropshire	0	0.00	0
The Wrekin	4	3.36	0
SOMERSET			
Eastern Somerset	7	3.53	0
Western Somerset	11	5.69	1
SOUTH YORKSHIRE			
South Yorkshire East	8	1.96	0
South Yorkshire West	41	7.28	1
STAFFORDSHIRE			
South Staffordshire	15	3.30	1
Stoke-on-Trent & North Staffordshire	16	4.55	0

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2003	Annual death rate per 100,000 population [1]	np-SAD 2002 deaths reported in 2003/4 [2]
SUFFOLK			
Greater Suffolk	20	5.63	0
Lowestoft	4	2.39	0
SURREY	14	1.71	1
TEESSIDE			
Hartlepool	2	2.98	0
Teesside	7	2.01	1
TYNE & WEAR			
Gateshead & South Tyneside	9	3.41	0
Newcastle-upon-Tyne	-	-	-
North Tyneside	0	0.00	0
Sunderland	0	0.00	0
WARWICKSHIRE	7	1.74	0
WEST MIDLANDS			
Birmingham	38	4.35	0
Black Country	6	0.95	0
Coventry	4	1.75	1
Wolverhampton	7	3.87	0
WEST SUSSEX	22	3.73	0
West YORKSHIRE			
West Yorkshire Eastern	39	4.94	2
West Yorkshire Western	26	3.31	7
WILTSHIRE	7	1.48	0
WORCESTERSHIRE	20	4.71	3
WALES			
Bridgend & Glamorgan Valleys	8	2.53	3
Cardiff & the Vale of Glamorgan	0	0.00	0
Carmarthenshire	6	4.43	0
Central North Wales	-	-	-
Ceredigion	-	-	-
Gwent	16	3.83	3
Neath & Port Talbot	6	5.75	0
North East Wales	3	1.41	0
North West Wales	-	-	-
Pembrokeshire	3	3.37	0
Powys	0	0.00	0
Swansea	-	-	-
NORTHERN IRELAND			
Armagh	2	1.91	0
East Tyrone	-	-	-
Fermanagh & Omagh	-	-	-
Greater Belfast	0	0.00	2
Londonderry	-	-	-
North Antrim	-	-	-

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2003	Annual death rate per 100,000 population (1)	np-SAD 2002 deaths reported in 2003/4 (2)
THE ISLANDS			
GUERNSEY	5	10.14	0
JERSEY	10	13.88	0
ISLE OF MAN	21	33.21	0
SCOTLAND			
ARGYLL & CLYDE			
Dumbarton	14	14.58	1

Please note that (0) refers to either no drug related deaths or death rates of less than 0.01, whilst (–) indicates that no reports were submitted for the specific period from that jurisdiction.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 28 of the coroners' jurisdictions in England and Wales, as well as the area covered by the Procurators Fiscal region in Dumbarton, are not co-terminus with these boundaries and cover parts of such areas (see Appendix 7). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) Notified after the publication of the np-SAD Annual Report, 2003.

APPENDIX 3: Changes in annual death rate by death rate per 100,000 population (16 years old and over), and annual % of all inquests held, 2002 and 2003

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2002	Annual death rate per 100,000 population 2002 (1)	Annual % of all inquests held in 2002 (2)	Number of np-SAD deaths 2003	Annual death rate per 100,000 population 2003 (1)	Annual % of all inquests held in 2003 (2)
Queen's Household	0	0.00	0	0	0.00	0
ENGLAND						
AVON	34	4.26	7.33	37	4.78	7.68
BEDFORDSHIRE	28	6.26	12.73	27	6.31	12.92
BERKSHIRE	19	2.98	7.28	13	2.50	5.24
BUCKINGHAMSHIRE						
Buckinghamshire	12	3.17	7.84	17	1.56	3.78
Milton Keynes	4	2.45	4.08	0	0.00	0
CAMBRIDGESHIRE						
North & East Cambridgeshire	3	2.35	4.00	3	2.38	3.66
Peterborough	6	4.84	7.89	9	7.58	11.25
South & West Cambridgeshire	27	8.35	13.78	12	3.83	6.67
CHESHIRE	30	3.79	5.73	21	2.77	4.04
CORNWALL						
Cornwall	10	2.41	4.44	2	0.50	0.65
Isles of Scilly	0	0.00	0.00	0	0.00	0.00
CUMBRIA						
North Eastern Cumbria	8	4.94	8.79	6	3.83	5.71
Southern Cumbria & Furness	11	7.75	5.47	9	6.65	5.08
Western Cumbria	1	1.06	1.69	7	7.73	9.21
DERBYSHIRE						
Derby & South Derbyshire	16	3.52	8.16	15	3.38	7.43
High Peak	-	-	-	0	0.00	0.00
Scarsdale	19	8.72	6.96	29	10.02	7.72
DEVON						
Exeter & Greater Devon	31	6.65	10.44	13	2.89	4.42
Plymouth & South West Devon	22	9.71	7.36	6	2.40	1.51
Torbay & South Devon	8	4.19	6.90	8	5.27	6.67
DORSET						
Bournemouth, Poole & Eastern Dorset	15	3.80	10.20	14	3.69	10.00
Western Dorset	3	1.67	3.19	7	4.03	7.69

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2002	Annual death rate per 100,000 population 2002 [1]	Annual % of all inquests held in 2002 [2]	Number of np-SAD deaths 2003	Annual death rate per 100,000 population 2003 [1]	Annual % of all inquests held in 2003 [2]
DURHAM						
Darlington & South Durham	18	8.27	13.43	6	2.87	5.31
North Durham	14	5.37	10.00	3	1.21	1.99
ESSEX						
Essex & Thurrock	21	2.03	5.12	13	1.30	2.94
Southend & South East Essex	2	0.77	1.67	13	5.19	10.83
EAST SUSSEX						
Brighton & Hove	56	26.85	34.15	51	25.30	31.48
East Sussex	24	5.97	8.73	34	8.81	12.10
GLOUCESTERSHIRE						
Cheltenham	6	2.61	4.23	4	1.81	2.80
Gloucester	12	5.30	9.76	13	6.03	9.63
GREATER MANCHESTER						
Manchester	38	11.92	8.19	37	11.29	6.67
North Manchester	15	3.18	6.33	18	4.02	4.76
South Manchester	25	4.45	4.55	25	4.64	4.67
West Manchester	6	0.97	1.49	13	2.19	3.06
HAMPSHIRE						
Central Hampshire	9	3.36	6.87	2	0.78	1.20
North East Hampshire	3	0.99	2.65	8	2.74	6.35
Portsmouth & South East Hampshire	34	7.75	18.48	9	2.14	3.93
Southampton & New Forest	15	4.67	9.38	22	7.16	12.87
HERTFORDSHIRE	22	2.67	5.66	43	5.44	11.98
HEREFORDSHIRE	1	0.70	1.39	2	1.46	2.17
HUMBERSIDE						
East Riding & Hull	43	16.63	17.13	19	4.35	8.26
ISLE OF WIGHT	3	2.71	3.80	1	0.93	1.16
KENT						
Central & South East Kent	8	3.17	4.85	2	0.82	1.33
Mid Kent & Medway	10	2.50	4.95	19	4.96	9.79
North East Kent	-	-	-	-	-	-
North West Kent	-	-	-	0	0.00	0.00
LANCASHIRE						
Blackburn, Hyndburn & Ribble Valley	13	6.13	8.28	3	1.49	1.65
Blackpool & the Fylde	26	14.69	15.66	17	9.94	11.89

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2002	Annual death rate per 100,000 population 2002 (1)	Annual % of all inquests held in 2002 (2)	Number of np-SAD deaths 2003	Annual death rate per 100,000 population 2003 (1)	Annual % of all inquests held in 2003 (2)
East Lancashire	30	15.72	21.43	25	13.87	18.94
Preston & West Lancashire	23	4.17	9.39	17	3.20	5.41
LEICESTERSHIRE						
Leicester City & South Leicestershire	-	-	-	-	-	-
Rutland & North Leicestershire	-	-	-	-	-	-
LINCOLNSHIRE						
Boston & Spalding	-	-	-	13	12.09	16.67
North Lincolnshire & Grimsby	1	0.41	0.74	-	-	-
Spilsby & Louth	3	2.48	4.82	0	0.00	0.00
Stamford	-	-	-	1	1.03	5.88
West Lincolnshire	22	10.92	15.38	8	4.09	6.11
LONDON						
City of London	0	0.00	0.00	0	0.00	0.00
Eastern London	11	1.26	3.06	15	1.83	3.77
Inner North London	47	7.26	10.56	61	9.88	14.42
Inner South London	39	4.87	8.19	32	4.20	7.02
Inner West London	28	4.07	7.55	34	4.84	9.16
Northern London	37	3.51	8.81	30	3.00	6.51
Southern London	13	1.58	3.89	12	1.53	4.05
Western London	70	6.81	11.78	80	8.14	12.99
MERSEYSIDE						
Knowsley, St Helens & Sefton	13	2.69	5.70	13	2.83	5.80
Liverpool	34	9.57	8.85	24	7.12	6.09
Wirral	7	2.84	3.40	15	6.30	6.67
NORFOLK						
Great Yarmouth	-	-	-	0	0.00	0.00
Kings Lynn	3	2.66	4.62	4	3.68	5.56
Norwich & Central Norfolk	26	5.51	10.70	12	2.62	5.66
NORTHAMPTONSHIRE	38	7.52	16.31	27	5.58	12.00
NORTHUMBERLAND						
North Northumberland	13	14.04	11.50	7	7.83	5.51
South Northumberland	-	-	-	0	0.00	0.00
NORTH YORKSHIRE						
North Yorkshire Eastern	5	2.52	3.85	3	1.58	2.29
North Yorkshire Western	-	-	-	3	1.17	2.16
York	6	3.98	4.80	0	0.00	0.00

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2002	Annual death rate per 100,000 population 2002 [1]	Annual % of all inquests held in 2002 [2]	Number of np-SAD deaths 2003	Annual death rate per 100,000 population 2003 [1]	Annual % of all inquests held in 2003 [2]
NOTTINGHAMSHIRE	18	2.18	3.11	20	2.53	3.50
OXFORDSHIRE	24	4.90	8.73	3	0.64	1.33
SHROPSHIRE						
Mid & North Shropshire	4	2.59	4.44	2	1.35	1.96
South Shropshire	-	-	-	0	0.00	0.00
The Wrekin	1	0.80	1.52	4	3.36	5.13
SOMERSET						
Eastern Somerset	5	2.43	4.59	7	3.53	7.00
Western Somerset	13	6.47	10.16	11	5.69	11.11
SOUTH YORKSHIRE						
South Yorkshire East	18	4.22	5.42	8	1.96	2.45
South Yorkshire West	29	4.92	6.81	41	7.28	8.78
STAFFORDSHIRE						
South Staffordshire	12	2.53	3.64	15	3.30	4.17
Stoke-on-Trent & North Staffordshire	18	4.87	4.89	16	4.55	3.31
SUFFOLK						
Greater Suffolk	10	2.72	3.80	20	5.63	9.90
Lowestoft	3	1.73	5.00	4	2.39	5.33
SURREY	27	3.16	7.34	14	1.71	3.77
TEESSIDE						
Hartlepool	9	12.96	10.98	2	2.98	3.39
Teesside	10	2.79	3.65	7	2.01	2.56
TYNE & WEAR						
Gateshead & South Tyneside	-	-	-	9	3.41	5.29
Newcastle-upon-Tyne	-	-	-	-	-	-
North Tyneside	-	-	-	0	0.00	0.00
Sunderland	7	3.12	5.83	0	0.00	0.00
WARWICKSHIRE	25	6.03	11.90	7	1.74	4.35
WEST MIDLANDS						
Birmingham	52	5.65	5.48	38	4.35	4.16
Black Country	7	1.05	2.15	6	0.95	1.69
Coventry	2	0.83	1.52	4	1.75	3.45
Wolverhampton	8	4.19	6.61	7	3.87	5.51
WEST SUSSEX	16	2.61	5.44	22	3.73	6.59
West YORKSHIRE						
West Yorkshire Eastern	28	3.38	4.45	39	4.94	6.61
West Yorkshire Western	53	6.44	12.10	26	3.31	6.72
WILTSHIRE	6	1.22	2.32	7	1.48	2.92
WORCESTERSHIRE	16	3.63	6.18	20	4.71	6.76

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2002	Annual death rate per 100,000 population 2002 (1)	Annual % of all inquests held in 2002 (2)	Number of np-SAD deaths 2003	Annual death rate per 100,000 population 2003 (1)	Annual % of all inquests held in 2003 (2)
WALES						
Bridgend & Glamorgan Valleys	20	6.04	1.19	8	2.53	2.63
Cardiff & the Vale of Glamorgan	1	0.29	0.89	0	0.00	0.00
Carmarthenshire	8	5.64	5.00	6	4.43	4.51
Central North Wales	-	-	-	-	-	-
Ceredigion	-	-	-	-	-	-
Gwent	21	4.80	5.75	16	3.83	8.16
Neath & Port Talbot	7	6.45	17.98	6	5.75	7.32
North East Wales	3	1.34	1.67	3	1.41	1.18
North West Wales	-	-	-	-	-	-
Pembrokeshire	6	6.59	6.33	3	3.37	4.92
Powys	-	-	-	0	0.00	0.00
Swansea	-	-	-	-	-	-
NORTHERN IRELAND						
Armagh	2	1.94	14.29	2	1.91	7.14
East Tyrone	-	-	-	-	-	-
Fermanagh & Omagh	-	-	-	-	-	-
Greater Belfast	2	0.30	1.41	0	0.00	0.00
Londonderry	-	-	-	-	-	-
North Antrim	-	-	-	-	-	-
South Down	-	-	-	-	-	-
THE ISLANDS						
GUERNSEY	-	-	-	5	10.14	38.46
JERSEY	7	9.75	22.58	10	13.88	27.03
ISLE OF MAN	2	3.20	?	21	33.21	60.00
SCOTLAND						
ARGYLL & CLYDE						
Dumbarton	8	8.33	-	14	14.58	-

Please note that (0) refers to either no drug related deaths or death rates of less than 0.01, whilst (–) indicates that no reports were submitted for the specific period from that jurisdiction.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 28 of the coroners' jurisdictions in England and Wales, as well as the area covered by the Procurators Fiscal region in Dumbarton, are not co-terminus with these boundaries and cover parts of such areas (see Appendix 7). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) Inquests held on all ages.

APPENDIX 4: np-SAD cases in 2002 reported in 2003/4

A further 113 inquest reports were received in 2003/4 on deaths occurring in 2002.

Demographic details and a summary of principal drugs implicated in death are presented below.

The distribution of deaths according to coroners' jurisdictions is summarised in Appendix 2

Profile of Cases

1. Demography

The majority of cases were male (75%). The median age at death was 32 years, with 82% being under the age of 45 years. Approximately 50% of cases were unemployed and 43% of cases were living alone or in no fixed abode at the time of their death (Table 1).

2. Location of Death

The majority of cases (61%) died at a defined residential address (e.g. the deceased's home address or other private residential address), 29% died in hospital and 10% died elsewhere (e.g. in a public place).

Table 1. Demographic variables

		No. np-SAD cases in 2002 reported in 2003/4
Gender	Male	85
	Female	28
Employment Status	Unemployed	55
	Employed	37
	Childcare/houseperson	1
	Student	3
	Retired/sickness/invalidity	13
	Other	1
	Not known	3
Living Arrangements	Alone	43
	With others (including hostels, hospital & residential care)	47
	No fixed abode	6
	Other	9
	Not known	8

3. Underlying Causes of Death

The proportions of ICD-10 categories of underlying cause of death were as follows:

- Accidental poisoning (X40-47) 59%
- Intentional self-poisoning (X60-67) 23%
- Other and unknown causes 18%

4. Substances Implicated in Death

The principal substances implicated were heroin/morphine (45%) and alcohol in combination with other drugs (26%). Heroin/morphine as the sole implicated drug accounted for 22% of deaths, opioid analgesics for 6% and antidepressants for 7% of deaths. The breakdown of psychoactive substances implicated in death is presented in Table 2.

Table 2. Psychoactive substances implicated in death; 2002 cases

Drug Category	No of cases where no other substance implicated (n=49) 2002 deaths	Total number of cases where drug implicated (n=103) 2002 deaths*
Hypnotic/sedatives	1	20
Antidepressants	8	22
Other opiates/opioid analgesics	7	21
Methadone	5	11
Antipsychotics	0	2
Heroin/morphine	25	51
Amphetamines	1	2
Cocaine	2	6
Alcohol	0	29
Entactogenic compounds (e.g., MDMA)	0	1
Gammahydroxybutyrate	0	0

* the totals do not equal number of cases due to multiple drugs implicated in cases and cases where the drug implicated is not specified.

APPENDIX 5: Description of the np-SAD Programme

Programme Staff

Professor Hamid Ghodse, Programme Director
Dr Fabrizio Schifano, Senior Lecturer and Coordinator of np-SAD
Dr Adenekan Oyefeso, Reader
Debbie Bannister, np-SAD researcher
Kathryn Cobain, Research Nurse
John Corkery, Honorary Senior Research Fellow
Ms Jan Annan, Associate Director, International Centre for Drug Policy

Administration

The National Programme on Substance Abuse Deaths (np-SAD) is managed within the overall structure of the International Centre for Drug Policy within the Department of Mental Health, St. George's Hospital Medical School, University of London.

Np-SAD Databases

The np-SAD manages two principal databases – the Dead Addicts Database and the Coroners Drug-Related Deaths Database.

The Dead Addicts Database was established in 1978 and contains data on characteristics of dead, previously notified addicts since 1967. It is updated via information collected from the Home Office and other sources and cross-checked with the Home Office Addicts' Index. In May 1997, the Addicts Index was closed. In recognition of the rich research resource this database provided, the electronic database of the Index was transferred to the Centre of Addiction Studies in the Department of Addictive Behaviour, which has taken formal custody of the data for research purposes.

The coroners Drug-Related Deaths Database was established in conjunction with the Home Office, following the closure of the Addicts Index. The purpose of the database is to provide information for the management of a national surveillance system for the monitoring of drug-related deaths reported by coroners and procurators fiscal. Data are sent to the np-SAD on a standard reporting form (see Appendix 6).

Data Management

1. Data Collection

All coroners in the UK (see Appendix 7) are issued with copies of the standard form. They are invited to complete the forms on all deaths that meet the criteria described in this report and return them to the np-SAD office at St. George's Hospital Medical School for coding and entry onto the database.

2. Data Entry & Coding

A great deal of consideration was given to the area of data coding to ensure that comparison with other databases was possible and that the final analyses would be useful to readers.

For example, all cases were coded for area of residence of the deceased. Causes of death (immediate and underlying) are re-coded according to ICD-10. All drugs (i.e. those implicated in the death) are coded separately according to therapeutic drug category (i.e. hypnotics/sedatives, antidepressants, opiates, etc).

3. Database

The data-set is held on a Microsoft EXCEL database. Anonymised data is then extracted onto SPSS for analysis. All data held, whether electronic or paper, is stored securely and treated as confidential. Access is restricted to programme staff. Only aggregated and anonymised data is released to third parties.

APPENDIX 6: Reporting Form

NOTIFICATION OF DRUG RELATED DEATH

Section 1. Demographic Information

Deceased Forename(s)_____ Gender: Male ☐ Female ☐
Family Name_____
Known Aliases:_____
Date of Birth_____/_____/_____Place of Birth_____
Usual Address _____
Postcode

Ethnicity (tick one):

☐ White ☐ Pakistani ☐ Black African ☐ Not known
☐ Chinese ☐ Bangladeshi ☐ Black Caribbean ☐ Other, specify___
☐ Indian ☐ Black other, specify_____

Occupational Status (tick one):

☐ Employed (manual) ☐ Unemployed ☐ Retired ☐ Student
☐ Employed (non-manual) ☐ Childcare/ Houseperson ☐ Not known
☐ Self-employed ☐ Invalidity/sick ☐ Other, specify_____

Living Arrangements (tick one):

☐ Alone ☐ Self & children ☐ No fixed abode
☐ With partner ☐ With parent(s) ☐ Not known
☐ Partner & children ☐ With friend(s) ☐ Other, specify_____

Section II. Circumstances of Death

Date of death_____/_____/_____ Place of death:_____

Was the deceased on prescribed medication? Yes No Not known
If yes, please list drugs: 1. _____ 2. _____
3. _____4. _____5._____

Was the deceased a drug addict or known drug abuser? Yes No Not known
Please list drugs present at post mortem (including alcohol) which were implicated in the death: 1._____ 2_____
_____4._____5._____

Reporting Form (cont'd)

Section III. Causes of Death

1(a) _____
1(b) _____
2. _____

Coroner's Verdict (if verdict is accident or misadventure, please also complete Section IV) _____

Section IV. Accidental Deaths and Misadventure

Place where accident occurred (tick one only):

☐ Home	☐ Mine or quarry	☐ Residential institution
☐ Farm	☐ Street or highway	☐ Place of recreation/sport
☐ Industrial place	☐ Educational institution	☐ Other specified place

Details of accident:

_____
_____
_____

Section V. Any other relevant information

Section VI. Coroner's Details

Coroner's Name: _____ Date of Inquest: _____/____/ ____

Jurisdiction: _____ Office: _____

Signature: _____ Date: _____/_____/_____

Please send completed form to: Np-SAD, Dept. of Mental Health-Addictive Behaviour, St. George's Hospital Medical School, Cranmer Terrace, London SW17 0RE.
For general enquiries tel: 0208 725 0693/5522 or fax 0208 725 2914
e-mail: npsad@sghms.ac.uk

APPENDIX 7: Coroner's and Procurators Fiscal's Jurisdictions

Administrative county/area	Jurisdiction	Description
	(The) Queen's Household	"The Coroner of the Queen's Household has exclusive jurisdiction in respect of inquests and, semble, inquiries which do not lead to inquests, on persons whose bodies are lying within the limits of any of the Queen's palaces or within the limits of any other house where Her Majesty is then demurrant and abiding in her own royal person, notwithstanding the subsequent removal of Her Majesty from such palace or house. The limits of the palace or house are deemed to extend to any courts, gardens or other places within the curtilage of the palace or house but not further. Where a body is lying dead beyond these limits, the coroner of the Queen's Household has no jurisdiction."
ENGLAND		
Avon	Avon	The city of Bristol and the districts of Bath & North East Somerset, North West Somerset & South Gloucestershire
Bedfordshire	Bedfordshire & Luton	The whole county of Bedfordshire and the county of Luton
Berkshire	Berkshire	The whole county of Berkshire
Buckinghamshire	Buckinghamshire	The whole county of Buckinghamshire (excl. Milton Keynes)
	Milton Keynes	The whole county of Milton Keynes
Cambridgeshire	North & East Cambridgeshire	The districts of Fenland & East Cambridgeshire
	Peterborough	The district of Peterborough
	South & West Cambridgeshire	The City of Cambridge, the districts of Huntingdon and South Cambridgeshire
Cheshire	Cheshire	The whole county of Cheshire
Cornwall	Cornwall	The whole county of Cornwall (exc. Isles of Scilly)
	Isles of Scilly	The Isles of Scilly
Cumbria	North Eastern Cumbria	The district of Carlisle. The district of Eden, except the Parish of Threlkeld; In the district of Allerdale, the parishes of Aikton, Allhallows, Allonby, Aspatria, Blennerhasset & Torpenhow, Bolton, Bowness, Bromfield, Caldbeck, Dundraw, Hayton & Mealo, Holme Abbey, Holme East Waver, Holme Low, Holme St Cuthbert, Ireby, Kirkhampton, Kirkbride, Sebergham, Silloth, Thursby, Waverton, Westnewton, Westward, Wigton & Woodside. Skinburness Marsh, common to the Parishes of Holme Abbey, Holme Low & Holme St Cuthbert Civil
	Southern Cumbria &	The districts of South Lakeland and Barrow-

	Furness	in-Furness. Lands common to the parishes of Lowick & Subberthwaite Civil, Aldingham & Urswick Civil (known as Birkrigg Common).
	Western Cumbria	The district of Copeland. The district of Allerdale, except the parts in the Coroner's Jurisdiction of North Eastern Cumbria. In the district of Eden, the parish of Threlkeld
Derbyshire	Derby & South Derbyshire	The county of Derby and the districts of Erewash & South Derbyshire. The district of Amber Valley (except the parts in the Coroners' Jurisdictions of High Peak and Scarsdale). In the district of West Derbyshire, the parishes of Alkmonton, Ashbourne, Atlow, Biggin, Boylestone, Bradbourne, Bradley, Brailsford, Clifton & Compton, Cubley, Doveridge, Edlaston & Wyaston, Fenny Bentley, Hognaston, Hollington, Hulland, Hulland Ward, Hungry Bentley, Kirk Ireton, Kniveton, Lea Hall, Longford, Mapleton, Marston Montgomery, Mercaston, Norbury & Roston, Offcote & Underwood, Osmaston, Rodsley, Shirley, Snelston, Somersal Herbert, Sudbury, Thorpe, Tissington, Yeaveley and Yeldersley
	High Peak	The district of High Peak. The district of West Derbyshire, except the parishes of the Coroner's Jurisdiction of Derby & South Derbyshire. In the district of Amber Valley, the parishes of Dethick, Lea & Holloway
	Scarsdale	The districts of Bolsover, Chesterfield & North East Derbyshire. In the district of Amber Valley, the parish of South Wingfield and Wards nos 1-4.
Devon	Exeter & Greater Devon	The districts of East Devon, Exeter, Mid Devon, North Devon, Torridge, West Devon. That part of the district of Teignbridge comprising the parishes of Alphington, Ashton, Bovey Tracey, Bridford, Christow, Chudleigh, Doddiscombsleigh, Dunchideock, Dunsford, Exminster, Hennock, Holcombe Burnell, Ide, Kenn, Lustleigh, Manaton, Moretonhampstead, North Bovey, Shillingford St George, Tedburn St Mary, Trusham & Whitestone.
	Plymouth & South West Devon	The district of Plymouth. The district of South Hams except the parishes in the Torbay and South Devon coroner's district.

	Torbay & South Devon	The district of Torbay. The district of

		Teignbridge except the parishes in the Coroner's Jurisdiction of Exeter and Greater Devon. That part of the district of South Hams comprising the parishes of Ashprington, Berry Pomeroy, Blackawton, Cornworthy, Dartington, Dartmouth, Dean Prior, Dittisham, Halwell, Harberton, Holne, Kingswear, Littlehampton, Marldon, Rattery, Slapton, Staverton, Stoke Fleming, Stoke Gabriel, Strete, Totnes and West Buckfastleigh
Dorset	Bournemouth, Poole & Eastern Dorset	The counties of Bournemouth & Poole, Christchurch, Purbeck and Wimbourne
	Western Dorset	The districts of West Dorset, North Dorset and Weymouth & Portland
Durham	Darlington & South Durham	The county of Darlington and the districts of Sedgefield and Teesdale {Wear Valley also included]
	North Durham	The districts of Chester-Le-Street, Derwentside, Durham and Easington
Essex	Essex & Thurrock (Essex No 1)	The districts of Basildon, Braintree, Brentwood, Chelmsford, Colchester, Epping Forest, Harlow, Maldon, Tendring, Thurrock and Uttlesford
	Southend & South East Essex (Essex No 2)	The districts of Southend, Rochford and Castle Point
East Sussex	Brighton & Hove	The county of Brighton & Hove
	East Sussex	The whole county of East Sussex
Gloucestershire	Cheltenham	The districts of Cheltenham, Cotswold, Stroud & Tewkesbury, except the parishes in the Coroner's Jurisdiction of Gloucester
	Gloucester	The districts of Forest of Dean & Gloucester. In the district of Tewkesbury, the parishes of Ashleworth, Brockworth, Chaceley, Churchdown, Down Hathersley, Forthampton, Hasfield, Highnam, Hucclecote, Innsworth, Longford, Maisemore, Minsterworth, Norton, Sandhurst, Tirley & Twigworth. In the district of Stroud, the parishes of Alkington, Alderley, Arlingham, Berkeley, Brookthorpe-with Whaddon, Cam, Coaley, Dursley, Eastington, Elmore, Frampton-on-Severn, Fretherne-with-Saul, Frocester, Ham & Stone, Hamfallow, Haresfield, Harescombe, Hardwicke, Hinton, Kingswood, Longney, Moreton Valence, North Nibley, Nympsfield, Owlpen, Quedgeley, Slimbridge, Standish, Stinchcombe, Uley, Upton St Leonards, Whitminster & Wotton-under-Edge. In the district of Cotswold, the parishes of Boxwell-with-Leighterton, Didmarton, Kingscote & Ozleworth
Greater Manchester	Manchester	The district of Manchester
	North Manchester	The districts of Bury, Rochdale & Oldham
	South Manchester	The districts of Stockport, Tameside and Trafford

	West Manchester	The districts of Wigan, Bolton and Salford
Hampshire	Central Hampshire	The districts of Winchester, Test Valley and Eastleigh
	North East Hampshire	The districts of Basingstoke, Hart & Rushmoor and that part of the district of East Hampshire not contained in the Portsmouth & South East Hampshire coroner's district
	Portsmouth & South East Hants	The county of Portsmouth and the districts of Fareham, Gosport and Havant and, in the district of East Hampshire, the parishes of Buriton, Clanfield, Colemore and Priors Dean, East Meon, Froxfield, Hawkley, Horndean, Langrish, Liss, Petersfield, Rowlands Castle and Steep
	Southampton & New Forest	The county of Southampton and the district of New Forest
Hertfordshire	Hertfordshire	The whole county of Hertfordshire
Herefordshire	Herefordshire	The whole county of Herefordshire
Humberside	East Riding & Hull	The counties of the East Riding of Yorkshire and the city of Kingston-upon-Hull
Isle of Wight	Isle of Wight	The whole county of the Isle of Wight
Kent	Central & South East Kent	The district of Shepway. The borough of Ashford. The district of Dover except those parishes with the North East Kent coroner's district. In the district of Swale, the parishes of Boughton under Bleab, Doddington, Dunkirk, Eastling, Faversham, Graveney & Goodnestone, Hernhill, Luddenham, Lynsted, Newnham, Norton & Buckland, Oare, Ospringe, Selling, Sheldwich Badlesmere & Leaveland, Stalisfield, Stone, Teynham, Throwley
	Mid Kent & Medway	The City of Rochester upon Medway, the districts of Gillingham and Maidstone. The district of Swale, with the exeception of Faversham and the parishes in the Coroner's Jurisdiction of East Kent. In the district of Tonbridge and Malling, the parishes of Addington, Aylesford, Birling, Burham, Ditton, East Malling & Larkfield, King's Hill, Leybourne, Mereworth, Offham, Ryarsh, Snodland, Trottiscliffe, Wateringbury & East Peckham, Wouldham.
	North East Kent	The district of Thanet. The City of Canterbury. In the district of Dover, the parishes of Ash, Aylesham, Deal, Eastry, Eythorpe, Goodnestone, Great Mongeham, Nonington, Northbourne, Preston, Ringwould & Kingsdown, Ripple, Sandwich, Sholden, Staple, Stourmouth, Sutton by Dover, Tilmanstone, Walmer, Wingham, Woodnesborough, Worth.

	North West Kent	The districts of Dartford, Gravesham, Sevenoaks and Tunbridge Wells. The district of Tonbridge and Malling except the parishes

		in the Mid-Kent and Medway Coroner's district.
Lancashire	Blackburn, Hyndburn & Ribble Valley	The districts of Blackburn, Hyndburn & Ribble Valley
	Blackpool & the Fylde	The districts of Blackpool and Fylde
	East Lancashire	The districts of Burnley, Pendle and Rossendale
	Preston & West Lancashire	The districts of Lancaster, Wyre, Chorley, Preston, South Ribble and West Lancashire
Leicestershire	Leicester City & South Leicestershire	The county of Leicester and the districts of Blaby, Harborough, Oadby, Wigston
	Rutland & North Leicestershire	The county of Rutland and the districts of Charnwood, Hinckley & Bosworth, Melton and North West Leicestershire
Lincolnshire	Boston & Spalding	The districts of Boston and South Holland
	North Lincolnshire & Grimsby	The counties of North Lincolnshire and North East Lincolnshire
	Spilsby & Louth	The district of East Lindsey, except the parishes in the West Lincolnshire coroners' district. In the district of West Lindsey, the parishes of Bigby, Brocklesbury, Cabourne, Caistor, Claxby, Grasby, Great Limber, Holton Le Moor, Keelby, Kirmond le Mire, Legsby Linwood, Market Rasen, Middle Rasen, Nettleton, Normanby le Wold, North Kelsey, North Willingham, Osgodby, Owersby, Riby, Rothwell, Searby cum Owmby, Sixhills, Somerby, South Kelsey, Stainton le Vale, Swallow, Swinhope, Tealby, Thoresway, Thorganby and Walesby.
	Stamford	In the district of South Kesteven, the parishes of Aslackby & Laughton, Barholm & Stowe, Baston, Billingborough, Bourne, Braceborough & Wilsthorpe, Careby Aunby & Holywell, Carlby, Castle Bytham, Corby Glen, Counthorpe & Creeton, Deeping St James, Dowsby, Dunsby, Edenham, Folkingham, Greatford, Haconby, Horbling, Irnham, Kirkby Underwood, Langtoft, Little Bytham, Market Deeping, Morton, Pointon & Sempringham, Rippingale, Stamford, Swayfield, Swinstead, Tallington, Thurlby, Toft with Lound & Manthorpe, Uffington, West Deeping and Witham on the Hill

	West Lincolnshire	The district of Lincoln. The district of North Kesteven. The district of South Kestevan, except the parishes in the Coroner's Jurisdiction of Stamford.The district of

		West Lindsey, except the parishes in the Coroner's jurisdiction of Spilsby & Louth. In the district of East Lindsey, the parishes of East & West Barkwith, Hatton, Langton by Wragby, Panton, West Torrington, Wragby.
London	City of London	City of London
	Eastern London	The London boroughs of Barking, Havering, Newham, Redbridge & Waltham Forest
	Inner North London	The London boroughs of Camden, Hackney, Islington & Tower Hamlets
	Inner South London	The London boroughs of Greenwich, Lambeth, Lewisham & Southwark
	Inner West London	The London boroughs of Wandsworth & Merton, the Royal Borough of Kensington & Chelsea, and the City of Westminster
	Northern London	The London boroughs of Barnet, Brent, Enfield, Haringey & Harrow
	Southern London	The London boroughs of Bexley, Bromley, Croydon and Sutton
	Western London	The London boroughs of Ealing, Hammersmith, Hillingdon, Hounslow and Richmond-upon-Thames, and the Royal Borough of Kingston-upon-Thames
Merseyside	Knowsley, St Helens & Sefton	The districts of Knowsley, St Helens and Sefton
	Liverpool	The district of Liverpool
	Wirral	The district of Wirral
Norfolk	Great Yarmouth	The borough of Great Yarmouth
	Kings Lynn	The district of Kings Lynn and West Norfolk
	Norwich & Central Norfolk	The city of Norwich, the districts of Broadland, Breckland, North Norfolk, and South Norfolk
Northamptonshire	Northamptonshire	The whole county of Northamptonshire
Northumberland	North Northumberland	The districts of Alnwick and Berwick-upon-Tweed and so much of the districts of Castle Morpeth and Wansbeck as lies north of the line for the time being of the centre of the River Wansbeck
	South Northumberland	The districts of Blyth Valley & Tynedale, and so much of the districts of Castle Morpeth & Wansbeck as lie south of the line for the time being of the centre of the River Wansbeck
North Yorkshire	North Yorkshire Eastern	The districts of Hambleton, Ryedale and Scarborough
	North Yorkshire Western	The districts of Richmondshire, Craven, Harrogate and Selby

	York	The county of York. In the district of Harrogate, the parishes of Nether and Upper Poppleton. In the district of Ryedale, the parishes of Clifton (without), Earswick, Haxby, Heworth (without), Holtby,

		Huntington, Murton, New Earswick, Osbaldwick, Rawcliffe, Skelton, Stockton-on-the- Forest, Strensall, Towthorpe, Wigginton. In the district of Selby, the parishes of Dunnington, Elvington, Fulford, Heslington, Kexby, Naburn & Deighton, Wheldrake.
Nottinghamshire	Nottinghamshire	The whole county of Nottinghamshire and the City of Nottingham
Oxfordshire	Oxfordshire	The whole of the county of Oxfordshire
Shropshire	Mid & North Shropshire	The districts of Oswestry, North Shropshire, Shrewsbury & Atcham
	South Shropshire	The districts of South Shropshire and Bridgnorth
	The Wrekin	The whole county of the Wrekin
Somerset	Eastern Somerset	The districts of Mendip and South Somerset
	Western Somerset	The districts of Sedgemoor, Taunton Deane and West Somerset
South Yorkshire	South Yorkshire East	The district of Doncaster and Rotherham
	South Yorkshire West	The districts of Barnsley and Sheffield
Staffordshire	South Staffordshire	The districts of Cannock Chase, East Staffordshire, Lichfield, South Staffordshire, Stafford and Tamworth.
	Stoke-on-Trent & North Staffordshire	The county of Stoke-on-Trent, and the districts of Newcastle-under-Lyme and Staffordshire Moorlands
Suffolk	Greater Suffolk	The districts of Ipswich, Babergh, Forest Heath, St Edmundsbury. In the district of Suffolk Coastal, the parishes of Alderton, Bawdsey, Blaxhall, Boulge, Boyton, Bredfield, Brightwell, Bromeswell, Bucklesham, Burgh, Butley, Campsea Ash, Capel St Andrew, Charsfield, Chillesford, Clopton, Culpho, Dallinghoo, Dallinghoo Wield, Debach, Eyke, Falkenham, Felixstowe, Foxhall, Gedgrave, Great Bealings, Grundisburgh, Haskeston, Havergate Island, Hemley, Hollesley, Iken, Kesgrave, Kirton, Levington, Little Bealings, Martlesham, Melton, Nacton, Newbourne, Orford, Otley, Pettistree, Playford, Purdis Farm, Ramsholt, Rendlesham, Rushmere St Andrew, Shottisham, Stratton Hall, Sudbourne, Sutton, Swilland, Trimley St Martin, Trimley St Mary, Tuddenham St Martin, Tunstall, Ufford, Waldringfield, Wantisden, Westerfield, Wickham Market, Witnesham & Woodbridge. In the district of Mid Suffolk, the parishes of Akenham, Ashbocking, Bacton, Badley, Badwell Ash, Barham, Barking, Battisford, Baylham, Beyton, Botesdale, Bramford, Buxhall, Claydon, Coddenham, Combs, Cotton, Creeting St Mary, Creeting St Peter, Crowfield, Drinkstone, Earl Stonham, Elmswell, Felsham, Finningham, Flowton, Gedding, Gipping, Gosbeck, Great Ashfield, Great Blakenham, Great Bricett,

		Great Finborough, Harleston, Haughley, Helmingham, Hemingstone, Henley, Hesset, Hinderclay, Hunston, Langham, Little Blakenham, Little Finborough, Needham Market, Nettlestead, Norton, Offton, Old Newton, Onehouse, Rattlesden, Redgrave, Rickinghall Inferior, Rickinghall Superior, Ringshall, Selland, Somersham, Stowlangtoft, Stowmarket, Stowupland, Thurston, Tostock, Walsham-le-Willows, Wattisfield, Weesthorpe, Wetherden, Whitton, Willisham, Woolpit, Wyverstone.
	Lowestoft	The district of Waveney; that part of the district s of Mid Suffolk and Suffolk Coastal not contained in the Coroners' Jurisdiction of Greater Suffolk
Surrey	Surrey	The whole county of Surrey
Teesside	Hartlepool	The county of Hartlepool
	Teesside	The counties of Middlesbrough, Redcar & Cleveland and Stockton-on Tees
Tyne & Wear	Gateshead & South Tyneside	The districts of Gateshead and South Tyneside
	Newcastle-upon-Tyne	The City of Newcastle-upon-Tyne
	North Tyneside	The district of North Tyneside
	Sunderland	The district of Sunderland
Warwickshire	Warwickshire	The whole county of Warwickshire
West Midlands	Birmingham	The districts of Birmingham & Solihull
	Black Country	The districts of Dudley, Sandwell, and Walsall
	Coventry	The district of Coventry
	Wolverhampton	The district of Wolverhampton
West Sussex	West Sussex	The whole county of West Sussex
West Yorkshire	West Yorkshire Eastern	The metropolitan district of Leeds and Wakefield
	West Yorkshire Western	The metropolitan districts of Bradford, Calderdale and Kirklees
Wiltshire	Wiltshire & Swindon	The counties of Wiltshire and Swindon
Worcestershire	Worcestershire	The whole county of Worcestershire
WALES		
	Bridgend & Glamorgan Valleys	The county boroughs of Bridgend, Merthyr Tydfil & Rhondda, Cynon & Taff
	Cardiff & the Vale of Glamorgan	The county of Cardiff and the county borough of the Vale of Glamorgan
	Carmarthenshire	The districts of Carmarthen, Llanelli and Dinefwr
	Central North Wales	The county of Denbighshire, the county borough of Aberconwy & Colwyn.
	Ceredigion	The distict of Ceredigion
	Gwent	The county of Monmouthshire, the county borough of Blaenau Gwent, Caerphilly, Newport and Torfaen
	Neath & Port Talbot	The districts of Neath & Port Talbot. In the borough of Lliw Valley, the communties of Cilybebyll, Clydach, Cwmllnfell, Gwam-Cae-Gurwen, Mawr, Pontardawe & Ystalyfera
	North East Wales	The boroughs of Flintshire and Wrexham.

		In the district of Glyndwr, the communities of Ceiriog Ucha, Chirk, Glyntraian, Llangedwyn, Llangollen, Llangollen Rural, Llanrhæadr-ym-Mochnant, Llansantffraid Glyn Ceiriog, Llansilin & Llantysilio.
	North West Wales	The counties of Anglesey, Caernarfonshire, Merionethshire
	Pembrokeshire	The district of Preseli and South Pembrokeshire (including Caldey Island and St Margaret's Island)
	Powys	The whole county of Powys
	Swansea	The district of Swansea. In the borough of Lliw Valley, the communities of Gorseinon, Gowerton, Grovesend, Llangyfelach, Llwchwr, Penllergaer, Pontarsulais, Pont-Lliw.
NORTHERN IRELAND		
	Armagh	Armagh, Craigavon
	East Tyrone	Cookstown, Dungannon, Magherafelt
	Fermanagh & Omagh	Fermanagh, Omagh
	Greater Belfast	Antrim, Ards, Belfast, Carrickfergus, Castlereagh, Down, Larne, Lisburn, Newtonabbey, North Down
	Londonderry	Limavady, Londonderry, Strabane
	North Antrim	Ballymena, Ballymoney, Coleraine, Moyle
	South Down	Banbridge, Newry & Mourne
THE ISLANDS		
	Guernsey	Alderney, Brecqhou, Guernsey, Herm, Jethou, Lihou, Little Sark, Sark
	Jersey	Jersey
	Isle of Man	Isle of Man
SCOTLAND	(Fiscal Areas)	
Argyll & Clyde	Paisley (HQ)	
	Campbelton	
	Dumbarton	
	Dunoon	
	Greenock	
	Oban	
Ayrshire	Kilmarnock (HQ)	
	Ayr	
Central	Stirling (HQ)	
	Alloa	
	Falkirk	
Dumfies & Galloway	Dumfries (HQ)	
	Kirkcudbright	
	Stranraer	

Fife	Kirkcaldy (HQ)	
	Cupar	
	Dunfermline	
Glasgow	Glasgow	
Grampian	Aberdeen (HQ)	
	Banff	

	Elgin	
	Peterhead	
	Stonehaven	
Highlands & Islands	Inverness (HQ)	
	Dingwall	
	Fort William	
	Kirkwall	
	Lerwick	
	Lochmaddy	
	Portree	
	Stornoway	
	Tain	
	Wick	
Lanarkshire	Hamilton (HQ)	
	Airdrie	
	Lanark	
Lothian & Borders	Edinburgh (HQ)	
	Duns	
	Haddington	
	Jedburgh	
	Linlithgow	
	Selkirk	
Tayside	Dundee (HQ)	
	Arbroath	
	Forfar	
	Perth	

Since the last Annual Report the following amalgamations of coroners' jurisdictions in England have occurred: East Berkshire, Reading and West Berkshire to form one for the whole county of Berkshire (1 April 2004); East and West Cornwall to form one for the whole county of Cornwall, but excluding the Isles of Scilly (1 February 2004); in Cumbria, Furness and Southern Cumbria to form South Cumbria & Furness (1 April 2004); Hertford and West & North Hertfordshire to form one for the whole county of Hertfordshire (1 October 2004); in Lincolnshire, Louth and Spilsby to form Spilsby & Louth (1 December 2003); in the West Midlands, Dudley, Sandwell, and Walsall to form Black Country (1 August 2004).

APPENDIX 8: Underlying Causes of Death, July-December 2003

ICD-10	No. of cases (n= 760)	%	Description

R99	18	2.4	Unascertained
X40	1	0.1	Accidental poisoning by & exposure to non-opioid analgesics, antipyretics and antirheumatics
X41	53	7.0	Accidental poisoning by & exposure to antiepileptic, sedative-hypnotic, antiparkinsonian and psychotropic drugs, not elsewhere classified
X42	135	17.8	Accidental poisoning by & exposure to narcotics and psychodyslectics (hallucinogens), not elsewhere classified
X43	1	0.1	Accidental poisoning by other drugs acting on the autonomic nervous system
X44	1	0.1	Accidental poisoning by & exposure to other and unspecified drugs, medicaments and biological substances
X45	3	0.4	Accidental poisoning by & exposure to alcohol
X46	0	0	Accidental poisoning by organic solvents, halogenated carbons, and their vapours
X60	2	0.3	Intentional self-poisoning by & exposure to non-opioid analgesics, antipyretics and antirheumatics
X61	65	8.6	Intentional self-poisoning by & exposure to antiepileptic sedative-hypnotic, antiparkinsonian and psychotropic drugs, not elsewhere classified
X62	40	5.3	Intentional self-poisoning by & exposure to narcotics and psychodyslectics (hallucinogens), not elsewhere classified
X63	1	0.1	Intentional self-poisoning by & exposure to other drugs acting on the autonomic nervous system
X64	1	0.1	Intentional self-poisoning by & exposure to other and unspecified drugs, medicaments and biological substances
X70	15	2.0	Hanging, strangling & suffocation, intentional
X71	1	0.1	Drowning & submersion, intentional
Y11	64	8.4	Open verdict poisoning by antiepileptic/ sedatives/ antiparkinsonian drugs

APPENDIX 8: Underlying Causes of Death, July-December 2003

ICD-10	No. of cases (n=760)	%	Description
Y10	3	0.4	Open verdict poisoning by non-opioid painkillers
Y12	35	4.6	Open verdict poisoning by narcotics/psychodyslectics
W70, W71, W73	4	0.6	Drowning & submersion, accidental
T40.1	89	11.7	Heroin overdose
T40.2	21	2.8	Opioid overdose
T40.4	22	2.9	Poisoning by synthetic opioid analgesics e.g. Co-proxamol
T43.5	4	0.5	Other antipsychotics overdose
T07, S09.9, S06.2	10	1.2	Multiple injury, head injuries
A41.2	4	0.5	Septicaemia due to unspecified staphylococcus
A41.9	1	0.1	Septicaemia unspecified
I26.9	5	0.7	Pulmonary embolism
I33	3	0.4	Acute endocarditis
I25.1, I35.8, R09.2, I49.9, I21.9, I50.1, I33 I51.8	31	4.1	Cardiovascular system – diseases, defects or conditions affecting
I61.9	6	0.8	Intracerebral haemorrhage
T17.9	15	2.0	Aspiration of gastric contents
T71, R09.0	7	0.9	Asphyxiation
J81	7	0.9	Pulmonary oedema or congestion
J18, J18.9, J69.0	25	3.2	Bronchopneumonia, pneumonia (unspecified), Aspiration pneumonia
J96.9, X09, J70.9, I26.9, J96.0, J80.0	10	1.2	Respiratory system – pneumonias, defects or conditions not specified elsewhere
Other	12	1.5	Other causes

APPENDIX 9: Drug-related deaths by Coroner's jurisdiction, July – December 2003. No. of cases, rate per 100,000 population (16 years old and over) and as a percentage of all inquests

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2003	Semi-annual death rate per 100,000 population [1]	Annual % of all inquests held in 2003 [2]
Queen's Household	0	0.00	0.00
ENGLAND			
AVON	17	2.20	3.53
BEDFORDSHIRE	16	3.74	7.66
BERKSHIRE	8	1.54	3.23
BUCKINGHAMSHIRE			
Buckinghamshire	4	0.89	2.16
Milton Keynes	0	0.00	0.00
CAMBRIDGESHIRE			
North & East Cambridgeshire	-	-	-
Peterborough	4	3.37	5.00
South & West Cambridgeshire	2	0.64	1.11
CHESHIRE	6	0.79	1.15
CORNWALL			
Cornwall	2	0.50	0.65
Isles of Scilly	0	0.00	0.00
CUMBRIA			
North Eastern Cumbria	4	2.55	3.81
Southern Cumbria & Furness	7	5.17	3.95
Western Cumbria	4	4.42	5.26
DERBYSHIRE			
Derby & South Derbyshire	7	1.58	3.47
High Peak	0	0.00	0.00
Scarsdale	12	5.73	4.41
DEVON			
Exeter & Greater Devon	8	1.78	2.72
Plymouth & South West Devon	6	2.40	1.51
Torbay & South Devon	3	1.98	2.50
DORSET			
Bournemouth, Poole & Eastern Dorset	5	1.32	3.57
Western Dorset	-	-	-
DURHAM			
Darlington & South Durham	6	2.87	5.31
North Durham	2	0.80	1.32
ESSEX			
Essex & Thurrock	6	0.60	1.36
Southend & South East Essex	6	2.39	5.00

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2003	Semi-annual death rate per 100,000 population [1]	Annual % of all inquests held in 2003 [2]
EAST SUSSEX			
Brighton & Hove	25	12.40	15.43
East Sussex	11	2.85	3.91
GLOUCESTERSHIRE			
Cheltenham	2	0.90	1.40
Gloucester	10	4.64	7.41
GREATER MANCHESTER			
Manchester	18	5.49	3.24
North Manchester	12	2.68	3.17
South Manchester	13	2.41	2.43
West Manchester	12	2.02	2.82
HAMPSHIRE			
Central Hampshire	1	0.39	0.60
North East Hampshire	3	1.03	2.38
Portsmouth & South East Hampshire	2	0.48	0.87
Southampton & New Forest	6	1.95	3.51
HEREFORDSHIRE	2	1.46	2.17
HERTFORDSHIRE	27	3.41	7.52
HUMBERSIDE			
East Riding & Hull	7	1.60	3.04
ISLE OF WIGHT	2	1.87	2.33
KENT			
Central & South East Kent	2	0.82	1.33
Mid Kent & Medway	7	1.83	3.61
North East Kent	-	-	-
North West Kent	0	0.00	0.00
LANCASHIRE			
Blackburn, Hyndburn & Ribble Valley	1	0.50	0.55
Blackpool & the Fylde	8	4.68	5.59
East Lancashire	8	4.44	6.06
Preston & West Lancashire	8	1.51	2.55
LEICESTERSHIRE			
Leicester City & South Leicestershire	-	-	-
Rutland & North Leicestershire	-	-	-
LINCOLNSHIRE			
Boston & Spalding	4	3.72	5.13
North Lincolnshire & Grimsby	-	-	-
Spilsby & Louth	0	0.00	0.00
Stamford	1	1.03	5.88
West Lincolnshire	5	2.56	3.82

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2003	Semi-annual death rate per 100,000 population [1]	Annual % of all inquests held in 2003 [2]
LONDON			
City of London	0	0.00	0.00
Eastern London	8	0.98	2.01
Inner North London	28	4.53	6.62
Inner South London	20	2.62	4.39
Inner West London	18	2.56	4.85
Northern London	14	1.40	3.04
Southern London	3	0.38	1.01
Western London	44	4.48	7.14
MERSEYSIDE			
Knowsley, St Helens & Sefton	7	1.52	3.13
Liverpool	11	3.27	2.79
Wirral	11	4.62	4.89
NORFOLK			
Great Yarmouth	0	0.00	0.00
Kings Lynn	1	0.92	1.39
Norwich & Central Norfolk	11	2.40	5.19
NORTHAMPTONSHIRE	14	2.89	6.22
NORTHUMBERLAND			
North Northumberland	2	2.24	1.57
South Northumberland	0	0.00	0.00
NORTH YORKSHIRE			
North Yorkshire Eastern	1	0.53	0.76
North Yorkshire Western	3	1.17	2.16
York	5	3.46	5.88
NOTTINGHAMSHIRE	11	1.39	1.92
OXFORDSHIRE	3	0.64	1.33
SHROPSHIRE			
Mid & North Shropshire	2	1.35	1.96
South Shropshire	0	0.00	0.00
The Wrekin	3	2.52	3.85
SOMERSET			
Eastern Somerset	4	2.02	4.00
Western Somerset	3	1.55	3.03
SOUTH YORKSHIRE			
South Yorkshire East	5	1.22	1.53
South Yorkshire West	23	4.08	4.93
STAFFORDSHIRE			
South Staffordshire	8	1.76	2.22
Stoke-on-Trent & North Staffordshire	7	1.99	1.45
SUFFOLK			
Greater Suffolk	10	2.81	4.95
Lowestoft	2	1.20	2.67
SURREY	9	1.10	2.43

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2003	Semi-annual death rate per 100,000 population [1]	Annual % of all inquests held in 2003 [2]
TEESSIDE			
Hartlepool	2	2.98	3.39
Teesside	3	0.86	1.10
TYNE & WEAR			
Gateshead & South Tyneside	3	1.14	1.76
Newcastle-upon-Tyne	-	-	-
North Tyneside	0	0.00	0.00
Sunderland	0	0.00	0.00
WARWICKSHIRE	4	1.00	2.48
WEST MIDLANDS			
Birmingham	12	1.37	1.31
Black Country	3	0.47	0.84
Coventry	1	0.44	0.86
Wolverhampton	4	2.21	3.15
WEST SUSSEX	13	2.04	3.59
West YORKSHIRE			
West Yorkshire Eastern	12	1.52	2.03
West Yorkshire Western	13	1.66	3.36
WILTSHIRE	1	0.21	0.42
WORCESTERSHIRE	14	3.30	4.73
WALES			
Bridgend & Glamorgan Valleys	9	2.85	2.96
Cardiff & the Vale of Glamorgan	-	-	-
Carmarthenshire	3	2.21	2.26
Central North Wales	-	-	-
Ceredigion	-	-	-
Gwent	15	3.59	7.65
Neath & Port Talbot	2	1.92	2.44
North East Wales	0	0.00	0.00
North West Wales	-	-	-
Pembrokeshire	1	1.12	1.64
Powys	0	0.00	0.00
Swansea	-	-	-
NORTHERN IRELAND			
Armagh and Craigavon	2	1.91	7.14
East Tyrone	-	-	-
Fermanagh & Omagh	-	-	-
Greater Belfast	4	5.89	2.60
Londonderry	-	-	-
North Antrim	-	-	-
South Down	-	-	-
THE ISLANDS			
GUERNSEY	2	4.06	15.38
JERSEY	4	5.55	10.81
ISLE OF MAN	0	0.00	0.00

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2003	Semi-annual death rate per 100,000 population [1]	Annual % of all inquests held in 2003 [2]
SCOTLAND			
ARGYLL & CLYDE			
Dumbarton	10	10.41	-

Please note that (0) refers to either no drug related deaths or death rates of less than 0.01, whilst (–) indicates that no reports were submitted for the specific period from that jurisdiction.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 28 of the coroners' jurisdictions in England and Wales, as well as the area covered by the Procurator Fiscals' region in Dumbarton, are not co-terminus with these boundaries and cover parts of such areas (see Appendix 7). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) Inquests held on all ages.

APPENDIX 10: Changes in semi-annual death rate (16 years old and over)

Coroner's Jurisdiction & county district	Semi-annual death rate per 100,000 population[1, 2]					
	Jan-June 2001	July-Dec 2001	Jan-June 2002	July-Dec 2002	Jan-June 2003	Jul-Dec 2003
Queen's Household	0.00	0.00	0.00	0.00	0.00	0.00
ENGLAND						
AVON	1.25	1.63	3.00	0.88	2.84	2.20
BEDFORDSHIRE	2.93	2.93	0.45	2.91	2.57	3.74
BERKSHIRE	1.10	2.82	1.88	1.52	1.34	1.54
BUCKINGHAMSHIRE						
Buckinghamshire	1.06	1.58	2.11	1.58	0.45	0.89
Milton Keynes	-	-	-	1.84	0.00	0.00
CAMBRIDGESHIRE						
North & East Cambridgeshire	-	3.16	-	-	0.79	-
Peterborough	4.86	4.86	4.03	2.42	1.68	3.37
South & West Cambridgeshire	1.87	1.87	1.24	4.64	2.55	0.64
CHESHIRE	1.27	1.91	1.39	1.26	2.77	0.79
CORNWALL						
Cornwall	0.24	1.22	1.21	0.72	1.00	0.50
Isles of Scilly	-	-	-	0.00	0.00	0.00
CUMBRIA						
North Eastern Cumbria	3.11	4.97	2.47	1.85	3.19	2.55
Southern Cumbria & Furness	2.82	3.52	7.05	4.23	1.48	5.17
Western Cumbria	1.07	-	1.06	-	1.10	4.42
DERBYSHIRE						
Derby & South Derbyshire	2.88	3.10	1.32	2.64	1.13	1.58
High Peak	-	-	-	0.00	0.00	0.00
Scarsdale	3.23	3.23	5.96	2.29	4.29	5.73
DEVON						
Exeter & Greater Devon	2.16	2.81	2.79	2.58	2.00	1.78
Plymouth & South West Devon	-	-	-	-	2.40	2.40
Torbay & South Devon	1.06	1.58	1.57	1.05	2.64	1.98
DORSET						
Bournemouth, Poole & Eastern Dorset	2.04	1.27	2.54	1.52	2.11	1.32
Western Dorset	-	0.56	-	1.67	2.31	-
DURHAM						
Darlington & South Durham	3.67	3.67	4.14	4.14	2.39	2.87

Coroner's Jurisdiction & county district	Jan-June 2001	July-Dec 2001	Jan-June 2002	July-Dec 2002	Jan-June 2003	Jul-Dec 2003
North Durham	3.46	3.08	3.07	1.92	2.82	0.80
ESSEX						
Essex & Thurrock	2.23	1.07	0.96	0.77	0.50	0.60
Southend & South East Essex	5.73	2.29	1.15	0.38	1.20	2.39
EAST SUSSEX						
Brighton & Hove	14.87	11.04	11.99	13.42	14.38	12.40
East Sussex	3.00	2.75	1.74	0.99	1.81	2.85
GLOUCESTERSHIRE						
Cheltenham	2.18	1.31	2.17	1.30	1.36	0.90
Gloucester	1.78	4.01	3.09	3.09	3.25	4.64
GREATER MANCHESTER						
Manchester	6.35	3.81	2.20	5.33	5.80	5.49
North Manchester	4.88	2.12	3.60	0.42	2.33	2.68
South Manchester	2.84	1.78	0.71	2.31	1.11	2.41
West Manchester	-	-	-	0.16	-	2.02
HAMPSHIRE						
Central Hampshire	1.50	1.13	1.12	2.98	0.39	0.39
North East Hampshire	-	-	-	0.99	0.69	1.03
Portsmouth & South East Hampshire	2.52	2.98	5.24	3.42	3.10	0.48
Southampton & New Forest	1.57	3.14	1.87	3.12	4.56	1.95
HEREFORDSHIRE	-	-	-	-	0.73	1.46
HERTFORDSHIRE	-	-	-	-	-	19.66
HUMBERSIDE						
East Riding & Hull	4.69	5.86	4.64	8.12	2.29	1.60
ISLE OF WIGHT	0.92	3.67	-	1.81	4.66	1.87
KENT						
Central & South East Kent	-	-	0.40	2.37	0.41	0.82
Mid Kent & Medway	0.50	2.02	3.00	1.25	1.04	1.83
North East Kent	-	-	-	-	-	-
North West Kent	-	-	-	0.00	0.00	0.00
LANCASHIRE						
Blackburn, Hyndburn & Ribble Valley	4.75	3.32	-	5.19	1.49	0.50
Blackpool & the Fylde	5.11	6.24	5.65	9.60	4.09	4.68
East Lancashire	2.63	4.21	4.71	6.81	7.76	4.44
Preston & West Lancashire	3.28	4.92	2.72	2.90	3.02	1.51
LEICESTERSHIRE						
Leicester City & South Leicestershire	-	-	-	-	-	-
Rutland & North Leicestershire	-	-	-	-	-	-

Coroner's Jurisdiction & county district	Jan-June 2001	July-Dec 2001	Jan-June 2002	July-Dec 2002	Jan-June 2003	Jul-Dec 2003
LINCOLNSHIRE						
Boston & Spalding	-	4.60	0.90	0.00	1.86	3.72
North Lincolnshire & Grimsby	2.85	-	2.03	-	-	-
Spilsby & Louth	1.69	-	0.83	1.65	0.85	0.00
Stamford	1.00	-	-	-	-	1.03
West Lincolnshire	5.55	3.03	4.97	4.97	1.53	2.56
LONDON						
City of London	-	-	-	0.00	0.00	0.00
Eastern London	0.35	1.05	0.46	0.46	1.22	0.98
Inner North London	9.15	16.10	7.57	5.56	6.64	4.53
Inner South London	1.38	2.63	1.62	2.12	3.15	2.62
Inner West London	1.03	6.19	3.64	2.04	2.70	2.56
Northern London	2.02	2.31	2.09	2.37	1.00	1.40
Southern London	0.12	0.12	0.24	0.24	1.79	0.38
Western London	-	-	6.03	3.99	3.77	4.48
MERSEYSIDE						
Knowsley, St Helens & Sefton	3.52	3.10	2.27	1.65	1.09	1.52
Liverpool	5.94	4.52	1.41	6.20	5.34	3.27
Wirral	2.42	2.4	3.65	2.03	1.26	4.62
NORFOLK						
Great Yarmouth	-	-	-	-	0.00	0.00
Kings Lynn	0.90	1.80	2.66	-	0.92	0.92
Norwich & Central Norfolk	1.06	2.56	2.54	3.39	1.09	2.40
NORTHAMPTONSHIRE	4.22	4.62	4.16	3.76	1.86	2.89
NORTHUMBERLAND						
North Northumberland	6.54	3.27	3.24	6.48	6.71	2.24
South Northumberland	-	1.27	1.89	-	-	0.00
NORTH YORKSHIRE						
North Yorkshire Eastern	0.51	3.55	0.50	2.02	0.53	0.53
North Yorkshire Western	-	-	-	-	0.78	1.17
York	-	-	-	-	1.39	3.46
NOTTINGHAMSHIRE	0.86	0.73	0.12	1.58	0.89	1.39
OXFORDSHIRE	-	-	-	2.45	1.27	0.64
SHROPSHIRE						
Mid & North Shropshire	-	2.62	-	-	1.35	1.35
South Shropshire	-	-	-	2.59	0.00	0.00
The Wrekin	-	0.81	0.80		0.00	2.52
SOMERSET						
Eastern Somerset	0.98	1.95	0.49	1.46	1.01	2.02
Western Somerset	2.03	2.03	2.49	4.98	2.07	1.55
SOUTH YORKSHIRE						
South Yorkshire East	1.65	1.65	1.64	1.41	2.45	1.22

Coroner's Jurisdiction & county district	Jan-June 2001	July-Dec 2001	Jan-June 2002	July-Dec 2002	Jan-June 2003	Jul-Dec 2003
STAFFORDSHIRE						
South Staffordshire	2.12	2.12	0.63	0.63	1.10	1.76
Stoke-on-Trent & North Staffordshire	2.17	1.63	1.35	2.17	3.13	1.99
SUFFOLK						
Greater Suffolk	0.55	3.83	1.36	1.63	3.10	2.81
Lowestoft	1.74	1.16	1.15	0.58	1.79	1.20
SURREY	1.52	1.87	0.94	2.22	0.97	1.10
TEESSIDE						
Hartlepool	-	8.61	5.76	7.20	5.96	2.98
Teesside	0.56	3.07	1.95	1.95	1.16	0.86
TYNE & WEAR						
Gateshead & South Tyneside	1.45	0.72	-	-	0.76	1.14
Newcastle-upon-Tyne	2.36	-	4.71	-	-	-
North Tyneside	-	-	-	-	-	0.00
Sunderland	1.34	0.45	3.12	2.23	0.46	0.00
WARWICKSHIRE	1.23	1.72	0.97	3.62	2.49	1.00
WEST MIDLANDS						
Birmingham	1.53	1.09	2.82	2.82	2.63	1.37
Black Country	1.80	1.50	0.90	0.60	0.47	0.47
Coventry	2.09	-	0.41	-	0.00	0.44
Wolverhampton	2.11	1.59	-	4.19	6.63	2.21
WEST SUSSEX	1.96	1.14	1.14	2.45	2.54	2.04
WEST YORKSHIRE						
West Yorkshire Eastern	3.04	2.79	1.57	2.17	1.90	1.52
West Yorkshire Western	3.05	1.71	1.09	2.67	2.93	1.66
WILTSHIRE	2.26	0.41	-	0.20	0.63	0.21
WORCESTERSHIRE	2.06	1.60	1.13	2.04	0.94	3.30
WALES						
Bridgend & Glamorgan Valleys	-	-	-	1.51	2.53	2.85
Cardiff & the Vale of Glamorgan	-	1.18	-	-	0.61	-
Carmarthenshire	3.57	2.14	4.23	1.41	5.17	2.21
Central North Wales	-	-	-	-	-	-
Ceredigion	-	-	-	-	-	-
Gwent	1.15	1.15	0.46	1.83	2.15	3.59
Neath & Port Talbot	0.93	3.70	6.45	5.53	0.96	1.92
North East Wales	-	-	-	1.34	-	0.00
North West Wales	2.02	2.02	1.34	-	-	-
Pembrokeshire	3.33	1.11	2.20	4.39	1.12	1.12
Powys	-	-	-	-	0.00	0.00
Swansea	-	-	-	-	-	-

Coroner's Jurisdiction & county district	Jan-June 2001	July-Dec 2001	Jan-June 2002	July-Dec 2002	Jan-June 2003	Jul-Dec 2003
NORTHERN IRELAND						
Armagh	-	-	1.94	-	-	1.91
East Tyrone	-	-	-	0.00	0.00	-
Fermanagh & Omagh	-	-	-	-	-	-
Greater Belfast	-	-	0.89	-	7.37	5.89
Londonderry	-	-	-	-	-	-
North Antrim	-	-	-	-	-	-
South Down	-	-	-	0.00	0.00	-
THE ISLANDS						
GUERNSEY	-	-	-	0.00	6.09	4.06
JERSEY	-	-	2.79	5.57	8.33	5.55
ISLE OF MAN	-	-	3.20	1.60	4.74	0.00
SCOTLAND						
ARGYLL & CLYDE						
Dumbarton	-	-	-	4.17	8.33	10.41
LOTHIAN & BORDERS						
Linlithgow	-	-	-	-	0.84	-

Please note that (0) refers to either no drug related deaths or death rates of less than 0.01, whilst (–) indicates that no reports were submitted for the specific period from that jurisdiction.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 28 of the coroners' jurisdictions in England and Wales, as well as the areas covered by the Procurators Fiscal regions in Dumbarton and Linlithgow, are not co-terminus with these boundaries and cover parts of such areas (see Appendix 7). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) These rates are based on the number of inquests reported to the np-SAD during the relevant 6-month period. They do not, therefore, reflect the workload of the coroners in terms of the number of drug-related death inquests held in these periods. Furthermore, details of additional inquests held in these periods may be subsequently notified to the np-SAD.

APPENDIX 11: Feedback form

Please detach this sheet and return to:

Np-SAD, International Centre for Drug Policy, Dept Mental Health-Addictive Behaviour, St. George's Hospital Medical School, Cranmer Terrace, London, SW17 0RE.

FEEDBACK FORM

1. Please tick the appropriate box on the following features of this report:

	Very useful	Useful	Not useful
Demography	☐	☐	☐
Drug-related death rates	☐	☐	☐
Location of death	☐	☐	☐
Underlying causes	☐	☐	☐
Substances implicated in death	☐	☐	☐
Prescribed psychoactive medication	☐	☐	☐
Associated risks	☐	☐	☐
Drug abuse vs. non-drug abuse	☐	☐	☐

2. What other aspects relating to Substance Abuse Deaths would you like to see reported in future monographs?

   a.
   b.
   c.

3. Please make any further comments on improving the content or layout of the report:

4. What type of organization do you represent (please tick)
   Coroner/Procurator Fiscal Office ☐ Drug Action Team ☐
   Drug/alcohol treatment service ☐ Other (specify)

5. Would you like to receive future monographs in the series? YES ☐ NO ☐

Name:
Position

Address:

Postcode: Tel: Fax:

E-mail:

Drug-related deaths in Scotland, 2003

Graham Jackson, General Register Office for Scotland (GROS)

The following note is based on a paper published by the General Register Office for Scotland (GROS) in August 2004. The full paper, which gives additional background information and trend data may be found on the GROS website [http://www.gro-scotland.gov.uk/grosweb/grosweb.nsf/pages/03drug-related-deaths]

Introduction

1. This paper gives information about drug-related deaths in Scotland in 2003, using the definition for baseline figures introduced in 2001. This definition was agreed by a working party set up following the publication, by the Advisory Council on the Misuse of Drugs (ACMD; 1). The Office for National Statistics has also prepared data on drug-related deaths in England and Wales using this new definition.

2. Paragraph 3 below gives some background on the collection of information on drug-related deaths in Scotland; paragraphs 4 - 11 summarise the main points arising from the information for 2003 presented in Tables 1 - 6; Annex A gives background on the definition of drug-related deaths including a detailed description of the definition used in this paper.

Data sources

3. Drug-related deaths are identified using details from death registrations supplemented by information from a specially designed questionnaire, completed by forensic pathologists, for all deaths involving drugs or persons known or suspected to be drug-dependent. Additionally, the General Register Office for Scotland (GROS) follows up all cases of deaths of people where the information on the death certificate is vague or suggests that there might be a background of drug abuse. A paper published in June 1995 by GROS (2) described this enhancement to the data collection system.

Summary of results

Recent trends (Table 1)

4. There were 317 drug-related deaths in 2003, 65 (17 %) fewer than in 2002 but 73 (30%) more than in 1996. Within these totals, the number of deaths of known or suspected habitual drug abusers fell substantially, from 280 in 2002 to 216 in 2003. However, the number of deaths in this category is 23 % higher than in 1996. Between 2002 and 2003 there were only minor changes in the numbers of deaths coded to the other ICD10 categories. In 2003, 15 people died for accidental poisoning, 40 for intentional self poisoning and for 46 victims the cause of death was undetermined.

Table 1: Causes of drug related deaths, Scotland, 1996-2003

Year	Total	Cause of death category (ICD10 codes)				
		Drug abuse (F11-F16, F19)	Accidental poisoning (X40-X44)	Intentional self-poisoning (X60-X64)	Assault by drugs, etc. (X85)	Undetermined (Y10-Y14)
1996	244	175	10	41	-	18
1997	224	142	14	42	-	26
1998	249	179	16	32	-	22
1999	291	227	12	19	1	32
2000	292	220	11	34	-	27
2001	332	227	19	34	-	52
2002	382	280	17	30	-	55
2003	317	216	15	40	-	46

Health board areas (Tables 2 and 3)

5. Of the 317 deaths in 2003, 107 (34%) occurred in the Greater Glasgow Health Board area. Lothian with 40 (13%), and Grampian with 37 (12%), had the next highest totals. The Greater Glasgow total showed a large decrease, down from 126 in 2002 to 107 in 2003, that for Grampian fell from 47 to 37, while Lothian's total increased by 1 to 40. Of the other areas there were sizeable decreases for Ayrshire & Arran (down from 33 to 19), Forth Valley (down from 24 to 12) and Lanarkshire (down from 37 to 25).

6. Because of the relatively small numbers involved, particularly for some health board areas, and the possibility that more complete information has been reported in recent years, care should be taken when assessing the trends shown in **Tables 1 and 2**.

Table 2: Drug related deaths, by health board areas, 1996-2003

Health board area	1996	1997	1998	1999	2000	2001	2002	2003
Scotland	**244**	**224**	**249**	**291**	**292**	**332**	**382**	**317**
Argyll & Clyde	18	16	23	30	31	22	31	27
Ayrshire & Arran	3	6	4	15	20	35	33	19
Borders	2	1	1	-	1	1	-	2
Dumfries & Galloway	4	7	4	7	7	8	9	9
Fife	3	8	13	9	12	11	12	12
Forth Valley	-	4	2	8	4	9	24	12
Grampian	29	22	26	36	31	46	47	37
Greater Glasgow	90	67	93	100	104	96	126	107
Highland	2	3	1	7	1	5	8	7
Lanarkshire	11	12	21	23	29	24	37	25
Lothian	58	48	37	39	37	54	39	40
Orkney	-	-	-	-	-	-	-	-
Shetland	-	-	1	-	1	1	1	-
Tayside	24	30	23	14	14	19	14	19
Western Isles	-	-	-	1	-	1	1	1

Table 3: Drug related deaths by health board area, 2003

		Cause of death category (ICD10 codes)				
Health board area	**Total**	**Drug abuse (F11-F16, F19)**	**Accidental poisoning (X40-X44)**	**Intentional self-poisoning (X60-X64)**	**Assault by drugs, etc. (X85)**	**Undetermined (Y10-Y14)**
Scotland	**317**	**216**	**15**	**40**	**-**	**46**
Argyll & Clyde	27	22	1	1	-	3
Ayrshire & Arran	19	11	-	4	-	4
Borders	2	1	-	-		1
Dumfries & Galloway	9	7	-	1	-	1
Fife	12	7	-	2	-	3
Forth Valley	12	5	-	1	-	6
Grampian	37	27	3	3	-	4
Greater Glasgow	107	81	7	13	-	6
Highland	7	1	1	2	-	3
Lanarkshire	25	20		2	-	3
Lothian	40	23	2	9	-	6
Orkney	-	-	-	-	-	-
Shetland	-	-	-	-	-	-
Tayside	19	11	-	2	-	6
Western Isles	1	-	1	-	-	-

Age groups and sex (Table 4)

7. Most deaths (89%) were to persons aged under 45, with a quarter (25%) aged under 25. Of the 36 cases aged 45 and over, only 10 were known, or suspected, to be drug-dependent. Men accounted for 81% of the 317 drug-related deaths in 2003. Almost three-quarters (74%) of the male deaths were of known or suspected drug abusers compared to only 43% of the female deaths.

Table 4: Drug related deaths, by age & by sex, Scotland 2003

		Cause of death category (ICD10 codes)				
	Total	**Drug abuse (F11-F16, F19)**	**Accidental poisoning (X40-X44)**	**Intentional self-poisoning (X60-X64)**	**Assault by drugs, etc. (X85)**	**Undetermined (Y10-Y14)**
All ages	**317**	216	15	40	-	46
Under 25	**78**	56	7	5	-	10
25-34	**123**	97	2	8	-	16
35-44	**80**	53	5	9	-	13
45 and over	**36**	10	1	18	-	7
Males	**256**	190	12	24	-	30
Females	**61**	26	3	16	-	16

Types of drug involved (Tables 5 and 6)

8. **Tables 5 and 6** give information on the involvement of selected drugs, either alone or, more commonly, in combination with other drugs. Since these tables record individual mentions of particular drugs they may involve double counting of some deaths. It is believed that for the overwhelming majority of cases where morphine has

been identified in post-mortem toxicological tests its presence is a result of heroin use. The tables therefore show a combined figure for 'heroin/morphine'.

9. In 2003, the drugs listed in the tables were known to be involved in 272 (86%) of the 317 deaths. Heroin/morphine was involved in 175 (55%) of the deaths; diazepam was involved in 153 (48%) of the deaths; and methadone was involved in 87 (27%) of the deaths. A wide range of drug combinations was recorded. Of particular note was the fact that diazepam was also mentioned in 95 (54%) of the 175 deaths involving heroin/morphine. The presence of alcohol was mentioned for 128 of the 317 drug-related deaths in 2003. The blood-alcohol level was not given for all cases but, where mentioned, it was often at a relatively low level.

10. **Table 5** shows that, since 1996, there have been significant increases in the involvement of heroin/morphine, and to a slightly lesser extent diazepam, though the figures for 2003 both show a fall from the peaks recorded in 2002. Since 1996, there have also been marked increases in the smaller numbers involving cocaine and ecstasy. However, the number of deaths involving cocaine decreased slightly from 31 to 29 between 2002 and 2003, and the number involving ecstasy fell from 20 to 14. Between 1996 and 2000 there was a downward trend in the number of deaths involving methadone, but there has been a substantial increase since then, almost back to the 1996 level (100). The table also shows that the decline in the number of deaths involving temazepam was reversed in 2003 which recorded more than double the 2002 figure.

11. **Table 6** shows some geographical differences in the reported involvement of certain drugs. For example, heroin/morphine was mentioned in a much larger proportion of the deaths in Greater Glasgow (60 out of 107) and Grampian (27 out of 37) than in Lothian (9 out of 40). However the pattern is reversed for methadone - only 40 out of 107 deaths in Greater Glasgow and 5 out of 37 in Grampian compared to 19 out of 40 in Lothian. The table also shows that diazepam was involved in almost two-thirds (72 out of 107) of the deaths in Greater Glasgow.

Table 5: Drug related deaths; selected drugs involved[1], Scotland 1996-2003

Year	Heroin/ morphine[2]	Diazepam	Methadone	Temazepam	Cocaine	Ecstasy
1996	84	84	100	48	3	9
1997	74	93	86	33	5	2
1998	121	113	64	58	4	3
1999	167	142	63	56	12	8
2000	196	146	55	39	4	11
2001	216	156	69	20	19	20
2002	248	214	98	16	31	20
2003	175	153	87	35	29	14

[1] Individual deaths often involved more than one of these drugs. The numbers given are mentions of the drug, and should not be added to give total deaths.

Table 6: Drug-related deaths; selected drugs involved[1], by health board area, 2003

Health board area	Heroin/ morphine[2]	Diazepam	Methadone	Temazepam	Cocaine	Ecstasy
Scotland	**175**	**153**	**87**	**35**	**29**	**14**
Argyll & Clyde	22	13	4	7	-	1
Ayrshire & Arran	12	6	4	2	1	-
Borders	1	-	-	-	-	-
Dumfries & Galloway	6	3	1	3	-	-
Fife	4	1	4	1	-	1
Forth Valley	7	3	1	2	-	-
Grampian	27	15	5	2	3	2
Greater Glasgow	60	72	40	10	20	6
Highland	-	1	2	2	-	-
Lanarkshire	19	16	4	2	4	1
Lothian	9	18	19	2	1	2
Orkney	-	-	-	-	-	-
Shetland	-	-	-	-	-	-
Tayside	8	4	2	2	-	-
Western Isles	-	1	1	-	-	1

[1] Individual deaths often involved more than one of these drugs. The numbers given are mentions of the drug, and should not be added to give total deaths.

References

1. **The Advisory Council on the Misuse of Drugs.** Reducing drug related deaths. Home Office, 2000.

2. **Arrundale J and Cole S K.** Collection of information on drug-related deaths by the General Register Office for Scotland. GROS, 1995.

3. **Christophersen O, Rooney C and Kelly S.** Drug-related mortality: methods and trends. Population Trends 93, ONS, 1998.

Annex A

Notes on the definition of 'drug-related' deaths

1. The definition of a 'drug-related death' is not straightforward. A useful discussion on the definitional problems may be found in an article in the Office for National Statistics publication Population Trends (3). More recently, a report1 by the Advisory Council on the Misuse of Drugs (ACMD) considered current systems used in the United Kingdom to collect and analyse data on drug related deaths. In its report, the ACMD recommended that 'a short life technical working group should be brought together to reach agreement on a consistent coding framework to be used in future across England, Wales, Scotland and Northern Ireland'. GROS was represented on this group and this paper presents information on drug-related deaths using the approach agreed.

2. The baseline covers the following cause of death categories (the relevant codes from the International Classification of Diseases, Tenth Revision (ICD10), are given in brackets):

a. deaths where the underlying cause of death has been coded to the following sub-categories of 'mental and behavioural disorders due to psychoactive substance use':

   i. opioids (F11);

   ii. cannabinoids (F12);

   iii. sedatives or hypnotics (F13);

   iv. cocaine (F14);

   v. other stimulants, including caffeine (F15);

   vi. hallucinogens (F16); and

   vii. multiple drug use and use of other psychoactive substances (F19).

b. deaths coded to the following categories and where a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death:

   i. accidental poisoning (X40 - X44);

   ii. intentional self-poisoning by drugs, medicaments and biological substances (X60 - X64);

   iii. assault by drugs, medicaments and biological substances (X85); and

   iv. event of undetermined intent, poisoning (Y10 - Y14).

3. Categories of death excluded:

a. deaths coded to mental and behavioural disorders due to the use of alcohol (F10), tobacco (F17) and volatile substances (F18);

b. deaths coded to drug abuse which were caused by secondary infections and related complications (for example the 20 or so deaths in 2000 caused by clostridium novyi infection);

c. deaths from AIDS where the risk factor was believed to be the sharing of needles;

d. deaths from road traffic and other accidents which occurred under the influence of drugs; and

e. deaths where a drug listed under the Misuse of Drugs Act was present because it was part of a compound analgesic or cold remedy: specific examples are:

Co-proxamol: paracetamol, dextropropoxyphene
Co-dydramol: paracetamol, dihydrocodeine

Co-codamol: paracetamol, codeine sulphate

f. All three of these compound analgesics, but particularly co-proxamol, are commonly used in suicidal overdoses.

g. **Note:** As it is believed that dextropropoxyphene is rarely if ever available other than as a constituent of a paracetamol compound, it has been ignored on all occasions (even if there is no mention of a compound analgesic or paracetamol). However, deaths involving codeine or dihydrocodeine without mention of paracetamol have been included in the baseline as these drugs are routinely available on their own and known to be abused in this form.